



Deliverable 4.6

Report on Future Ideas for Proposals

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1. Introduction

1.1 Purpose

This document presents in general all ideas that were resulted in from the outcomes of the project and were considered for preparing and submitting proposals.

More specifically, various concepts and ideas for preparing proposals to attract additional funding from national, regional and EU calls, and ensure a financial sustainability in the future are described in this document. Various proposals have already been submitted by members of the consortium of DESTINI in collaboration with stakeholders and/or additional external partners and are described here. Furthermore, this document includes ideas that are currently under investigation for future submission of national/EU-funded proposals.

The results of the evaluation of all proposals submitted were the following: One proposal got accepted (DiGiNN), all the rest did not make it. It should be noted that out of the rest eight, one proposal went through the first stage and was rejected in the second (Care4Diabetes), and one missed funding by 0.04 below a critical threshold above which every proposal was funded (CO-DEVELOP). The calls were very competitive, just to mention that we had two proposals in the highly competitive Health sector, and one in a call for trafficking and looting of cultural heritage items under which only one proposal got funded.

In addition, three new proposals are expected to be submitted for the topics of Digital Cultural Heritage and civic protection. The expected months of submission is between March and September 2023. This deliverable is part of Work Package 4 (WP4) that describes the actions needed to be taken from the consortium to engage industrial and business stakeholders and establish direct communication channels for feedback and collection of real-world data that will facilitate experimentation and validation, and prepare the road for future piloting. Furthermore, WP4 suggests methods and actions followed by the consortium to extend the community and networks of strategic research collaborators, and support sustainability by attracting EU and national funding in the future.

1.2 Definitions, Acronyms, and Abbreviations

CUT: Cyprus University of Technology

CING: Cyprus Institute of Neurology and Genetics
CoE: Centre of Excellence
CYENS: Centre of Excellence (formerly known as RISE)
SBLA: Sewerage Board of Limassol
WBL: Waterboard of Limassol
DCH: Digital Cultural Heritage
BPM: Business Process Mining
DR: Digital Twins

1.3 Overview

The rest of the document is structured as follows: Section 2 describes the different proposals that were prepared and submitted before the end of the project. Section 3 provides details about other concepts and ideas that will lead to the preparation of new proposals in the future. Finally, section 4 concludes this deliverable.

2. Submitted National or European proposals

2.1 CO-DEVELOP

1. Project Identification			
Name	Smart Data Processing and Innovative Tools for Paradisiotis Group		
Acronym	SMART-PARADIS		
Funding	Research & Innovation Foundation (RIF) - Cyprus		
Programme	RESTART 2016 – 2020		
Call	CO-DEVELOP	Proposal ID	CODEVELOP-ICT-HEALTH/0322/0065

2. Project Summary

SMART-PARADIS aims at establishing a collaboration between the Cyprus University of Technology as the main research partner, and Paradisiotis Group, a poultry meat production enterprise, as the corporate partner and end-beneficiary of the project, supported by Sapienza University of Rome acting as external research partner, for transferring new and innovative knowledge and expertise between the partners, and allowing challenging problems within the specific business domain to be tackled. Collaboration activities include trainings, workshops, brainstorming, staff mobility & exchange, and hands-on experience development, as well as sharing of technological resources and infrastructure. Latest innovative technologies in the areas of smart data processing, process mining and blockchain will enable addressing specific business priority areas in the relevant working environment, and meeting specific needs and challenges, such as reducing chicks' mortality rate, improving waste management, optimizing delivery routes, lowering fuel consumption and maintenance costs, and linking energy consumption with breeding conditions. This project will contribute to bridging the gap between academia and industry in Cyprus, and at the same time produce innovative results that will benefit the participating enterprise, as well as other similar stakeholders. The targeted priority areas are aligned with main pillars of the Smart Specialization Strategy of Cyprus, such as food production, health & quality of living, and energy preservation. The outputs will allow the enterprise to increase its competitive stand and pioneer in technology related to its line of business, which in turn will result in better products with positive effects on public health, increased

productivity and lower costs, and energy preservation. The research partners will also be benefitted as they will be able to excel their research portfolios and perform applied research offering solutions to real-world problems and connect better with the industry and market.

3. Consortium

3. Consortium	
Partner	Country
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus
PARADISIOTIS LIMITED	Cyprus

2.2 SOTERIA

1. Project Identification			
Name	Smart and operational platform and tools enabling collective and actionable Insights to jointly fight illegal trafficking of cultural goods		
Acronym	SOTERIA		
Funding	Horizon Europe	Action	HORIZON-RIA
Call	HORIZON-CL3-2021-FCT-01	Proposal ID	101074012

2. Project Summary

SOTERIA's objective is threefold. Firstly, SOTERIA will systematically conduct pan-EU, evidence-driven, multi-disciplinary research to deliver deep insights in illegal cultural heritage trafficking, combining social-sciences, humanities, criminology, AI and engineering. Secondly, SOTERIA will consolidate on H2020 and related R&D projects, and integrate tools and techniques for enabling security experts to conduct network analysis and improve insights in market mechanism. Special emphasis will be placed on prevention of criminal networks, and to more effectively use techniques like counter insurgency to leverage prevention and more effectively deal with the criminal network threats. Thirdly, increasing awareness and training. At the same time, SOTERIA will respect fundamental rights and align with European societal values. SOTERIA will achieve its ambitious goals by fostering improved strategic and long-lasting collaboration amongst security agencies within EU member states through a pan-European and institutionalized community of security agencies and experts involved in crime-fighting ITCG that are enacted through the SOTERIA Platform. SOTERIA will deliver and promote the uptake of novel and actionable methods, tools and theories for lawful acquisition of data sources, and collectively, pro-actively and analytically perform investigations in such a way that the trail of evidence can be used in court. The SOTERIA platform will initially find its home in the ENLETS, European network of Law Enforcement Agencies.

3. Consortium

Partner	Country
ATOS IT SOLUTIONS AND SERVICES IBERIA SL	Spain
ATOS SPAIN SA	Spain
D-VISOR B.V	Netherlands
EXUS SOFTWARE MONOPROSOPI ETAIRIA PERIORISMENIS EVTHINIS	Greece
CYPRUS UNIVERSITY OF TECHNOLOGY	Cyprus
IANUS CONSULTING LTD	Cyprus
INTELLIGENCIA SAS	France
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Germany
ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	Greece
ANQUAN: HOMELAND SECURITY SYSTEMS & SERVICES	Greece
ASSOCIATION FOR RESEARCH INTO CRIMES AGAINST ART	Italia
UNIVERSITEIT LEIDEN	Netherlands
FUNDACIO INTERARTS PER A LA COOPERACIO CULTURAL INTERNACIONAL	Spain

POLISMYNDIGHETEN SWEDISH POLICE AUTHORITY	Sweden
STOWARZYSZENIE POLSKA PLATFORMA BEZPIECZENSTWA WEWNETRZNEGO	Poland
LEBANESE INTERNAL SECURITY FORCES - INTELLIGENCE DEPARTMENT	Lebanon
MINISTRY OF THE INTERIOR	Finland
ADMINISTRATION OF THE STATE BORDER GUARD SERVICE OF UKRAINE	Ukraine
KENTRO MELETON ASFALIAS	Greece
HELLENIC POLICE	Greece

2.3 BLOCKCHAINED

1. Project Identification			
Name	Blockchain Enabled Digital Logbooks for Buildings		
Acronym	BLOCKCHAINED		
Funding	Horizon Europe	Action	HORIZON-IA
Call	HORIZON-CL4-2022-TWIN-TRANSITION-01	Proposal ID	101092072

2. Project Summary

State of the Art building design and the monitoring parameters necessary for the upkeep and user comfort have hardly benefited from the recent advances in digitalization. Current building logbooks do not contain the information needed to track and monitor the ecological footprint, security, maintenance in an organized and centralized manner. European incentives call for decarbonisation (Green Deal, EC1019), Digitalization (EC2021) and a people-centric sustainably build environment (Built4People), and the United Nations (UN) Human Rights Council recognized access to a clean and healthy environment as a fundamental right. BLOCKCHAINED project is focused on development of a Blockchain enabled Digital Building Logbook to maximize the potential of modern state-of-the-art digital technologies. The building sector will take a leap forward in terms of decarbonisation, digitalization and the well-being of the building occupants. BLOCKCHAINED will provide a centralized, secure and easy to operate platform to access to critical building data, such as energy consumption, waste management, user access, environmental monitoring and maintenance on an incremental unalterable record. Firstly, through in-depth surveys and interviews with the stakeholders and demonstration sites, the user requirements will be collected and verified by means of the creation of a rapid prototype. Secondly, various systems, including NFC enabled security tag and door access control, IoT sensor network will be further developed and integrated with Web and Mobile based platforms. Thirdly, the system will be integrated and commenced at three different demonstration sites to show system applicability in versatile building types. Artificial Intelligent based Machine Learning methods will provide novel insights for planning preventive

maintenance and Building Information Modelling will be used for the reduction of energy consumption and improvement of indoor environmental quality.

3. Consortium	
Partner	Country
DUBLIN CITY UNIVERSITY	Ireland
BLOCKCHAIN2050 BV	Netherlands
NEWCO S.A.	Greece
B.I.G. SRL BUILDING INNOVATIVE GOVERNANCE SPIN OFF ACCADEMICO	Italy
XIOTEC LIMITED	Ireland
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus
MUNICIPALITY OF SITHONIA, HALKIDIKI, GREECE	Greece

2.4 PNYX

1. Project Identification			
Name	PNYX back to the origins		
Acronym	PNYX		
Funding	Horizon Europe	Action	HORIZON-RIA
Call	HORIZON-CL2-2022- DEMOCRACY-01	Proposal ID	101095122

2. Project Summary

The PNYX model derives from recent and previous research and adopts a twofold schema:

Roots of Democracy (theoretical concepts in a networked environment). This workflow will result in a structured offline and online training material. This material will be designed and developed aiming to facilitate interactive learning, especially through the use of advanced e-learning tools (e.g. serious games). This work will be integrated into the PNYX handbook to produce an open tool that will provide individuals (educators, citizens, etc.) a presentation of relevant theoretical concepts from all enmeshed disciplines (Politics, social science, ICT, education) and their transformation into interactive learning tools to be applied. Also, it will include lesson plans for a wide range of different age groups, as well as minorities.

Experiential application of e-democracy tools. The scope of the PNYX field study will be to assess the impact of the proposed e-democracy toolkit to the democracy competences of the control and target groups, such as valuing human dignity and human rights, openness to cultural otherness and to other beliefs, world views and practices, as well as empathy and respect. The field study, for each user category (students, political members, etc.) will include a control and a target group. The endpoint of all participants will be to vote for a specific issue. All participants will be probed through structured questionnaires, before and after the experimental process.

One approach facilitates the application different decision-making tools (e-

deliberation, debating, e-voting) by users (target group) aiming at expediting the shaping of new netizens. A second approach is based on the interaction of different user groups of a social media platform. Beginning as early as 507 BC (Fifth-century Athens), the Athenians gathered on the Pnyx to host their popular assemblies, thus making the hill one of the earliest and most important sites in the creation of democracy.

3. Consortium	
Partner	Country
UNIVERSITY OF PELOPONNESE	Greece
UNIVERSITY OF PATRAS	Greece
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus
NETHERLANDS BUSINESS ACADEMY BV	Netherlands
BLOCKCHAIN2050 BV	Netherlands
ASSOCIATION KULTURANOVA UDRUZENJE	Serbia
FARHAT HACHED INSTITUTE FOR RESEARCH AND DEMOCRACY	Tunisia
UNIWERSYTET ZIELONOGORSKI	Poland
CHYZESCIIJANSKA FUNDACJA ROZWOJU OSOBISTEGO RONDRO	Poland
PRATTO INSTITOYTO POLITIKIS TEKMIRIOSIS KAI PRAKSIS	Greece
EXPORT-AKADEMIE BADEN-WUERTTEMBERG GMBH	Germany

OELMEK	Cyprus
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2.5 AGORA2

1. Project Identification			
Name	Media and Democracy at AGORA2		
Acronym	AGORA2		
Funding	Horizon Europe	Action	HORIZON-RIA
Call	HORIZON-CL2-2022- DEMOCRACY-01	Proposal ID	101095283

2. Project Summary
<p>During the last decennia media environments and communication systems have changed fundamentally. These changes have major ramifications for the information and media offerings people receive and the extent to which they aid people in becoming informed, active and mobilised citizens. Against this background, AGORA2 aims to review key changes and trends of the current state of journalism under web 2.0, and assess their democratic implications. After mapping the benefits and pitfalls of this sociotechnical era for journalism and the media, AGORA2 will explore the potential and perils of the application of web 3.0 technologies in the field of journalistic production. Through a multi-method approach, AGORA2 will delve into the perceptions, needs and expectations of key stakeholders (media, journalists, users, advertisers) regarding the development of a 3.0 newsroom model. The action will develop a web 3.0 newsroom prototype accommodating normative assumptions, articulated needs and technological affordances of web 3.0 technologies.</p>

3. Consortium	
Partner	Country
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus

BLOCKCHAIN2050 BV	Netherlands
PANTEIO PANEPISTIMIO KOINONIKON KAI POLITIKON EPISTIMON	Greece
ASSOCIATION KULTURANOVA UDRUZENJE	Serbia
NETHERLANDS BUSINESS ACADEMY BV	Netherlands
FARHAT HACHED INSTITUTE FOR RESEARCH AND DEMOCRACY	Tunisia
UNIVERSITY OF PELOPONNESE	Greece
EXPORT-AKADEMIE BADEN- WUERTTEMBERG GMBH	Germany
SYNDESMOS IMERISION PERIFERIAKON EFIMERIDON	Greece

2.6 DIABETES-CARE

1. Project Identification			
Name	Optimizing the Effectiveness in Patients of SGLT-2 Inhibitors, GLP-1 Receptor Agonists, DPP-4 Inhibitors and Sulfonylurea for Managing Diabetes		
Acronym	DIABETES-CARE		
Funding	Horizon Europe	Action	HORIZON-RIA
Call	HORIZON-HLTH-2022-TOOL-11	Proposal ID	101095692

2. Project Summary

Health organisations worldwide aim to stimulate and support the adoption of effective measures for the surveillance, prevention and control of diabetes and its complications. The key aim of diabetes management is to keep the HbA1c level below 7.0%. Glucose-lowering drugs including metformin, sulfonylurea, SGLT-2i, GLP-1RA, and DPP-4i are used to reduce the HbA1c level in diabetes treatment. However, results reported shown these drugs are efficient in less than 50% of the population treated and the secondary failure to hypoglycemic agents is estimated from 3 to 30% year. Keeping in mind the benefit of organ salvage in diabetes, failure with hypoglycemic agents treatment should be detected earliest and necessary measures adopted as early as possible. To date, there is not sufficient evidence of truly personalised treatment for diabetes. In this context, DIABETES-CARE is to identify qualified phenotypic, molecular, genomic, physiological, breath, lifestyle, social, comorbidity biomarkers for optimising the effectiveness in patients of glucose lowering drugs addressing the concept of personalized treatment. For this an observational studies will be carried out over 12 months in four geographical locations by recruiting Type-2 diabetic subjects targeting an endpoint of HbA1c <7.0%. Four class of glucose lowering drugs administrated to patients will be evaluated. A combination of a hardware (breath sensor) and software (AI based) approach is to achieve the goal of DIABETES-CARE using advanced statistical analysis and data visualization for the management of database biomarkers. Thus, based on qualified biomarkers a novel and non-invasive

breath sensor based companion diagnosis tool and machine learning based drug recommender platform will be developed, validated via a pilot clinical trial. Finally, necessary regulatory approval will be sought for the commercialization of DIABETES-CARE. We take a multidisciplinary approach with academic and non-academic partners across EU.

3. Consortium

Partner	Country
CITY, UNIVERSITY OF LONDON	England
OWLSTONE MEDICAL LTD.	England
UNIVERSITY OF LEEDS	England
DUBLIN CITY UNIVERSITY	Ireland
INSTITUTE FOR ANALYTICAL SCIENCES	Germany
UNIVERSITÀ VITA-SALUTE SAN RAFFAELE	Italy
SERVICIO CANARIO DE LA SALUD	Spain
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus
ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	Greece
REPADO LTD	Greece
TELESTON	Greece
UNIVERSITY OF IOANNINA	Greece

AINIGMA TECHNOLOGIES	Belgium
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2.7 Care4Diabetes

1. Project Identification			
Name	Non-invasive Hybrid Sensors for Early Identification and Monitoring of Type-2 Diabetes		
Acronym	Care4Diabetes		
Funding	Horizon Europe	Action	HORIZON-EIC
Call	HORIZON-EIC-2022- PATHFINDEROPEN-01	Proposal ID	101099800

2. Project Summary

The project focuses on the studies and development of innovative, non-invasive hybrid sensors for early identification and monitoring of Type-2 diabetes to overcome the significant barrier to patient self-testing, treatment compliance and healthcare efficiency that routine, regular ‘finger prick’ testing provides. Such less-painful blood glucose monitoring technology will help millions in daily testing, as well as the hundreds of thousands of those who face serious or even life-threatening health problems as a result. The replacement of blood-based testing with non-invasive methods will provide a paradigm shift in the way disease is managed, and in a cost-effective way. Semiconducting Metal Oxide (SMO) nanomaterials show advantages over current approaches in their high surface-to-area ratio, high purity oxide formation and excellent electronic and optical properties, improving diagnostic accuracy. However, as their efficiencies, selectivity and sensitivity are major limitations in breath biopsy, this project focuses on a novel noninvasive sensor approach. Volatiles such as acetone are biomarkers for metabolic activity and while acetone detection can be linked to diabetes, this currently does not provide a sufficiently precise diagnosis. The project will develop a much more precise approach through a new design of hybrid gas sensor with significantly high efficiency, selectivity and sensitivity, integrating in an innovative way, the best of impedimetric and photonic techniques, as the basis of an innovative state-of the-art breath sensing device which will be transformative for the patient. The project not only proposes such an innovative solution space for this non-invasive breath biopsy technique for Type-2 diabetic patients, but provides a platform to open wider breath sensing possibilities.

New IP in nanomaterials production, processing and device development will be generated to provide patenting, licensing and potential future commercialization opportunities.

3. Consortium	
Partner	Country
CITY UNIVERSITY OF LONDON	United Kingdom
OWLSTONE MEDICAL LIMITED	United Kingdom
UNIVERSITA VITA-SALUTE SAN RAFFAELE	Italy
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus
DUBLIN CITY UNIVERSITY	Ireland

2.8 MEDTRAGE

1. Project Identification			
Name	Blockchain Technology for Secure & Transparent e-Governance in the Mediterranean		
Acronym	MEDTRAGE		
Funding	Interreg Euro-MED	Action	Governance project
Call	INTERREG EURO-MED PROGRAMME 2021/27	Proposal ID	Euro-MED0100056

2. Project Summary

The MEDTRAGE project aims to assist the Mediterranean authorities to better respond to theme challenges at various policy levels, with increased institutional capacity in transformational public policy, governance, and collaboration. Various legal entities, programs, strategies, and activities will be better coordinated on multiple levels to improve transparency in areas like public finance and governance (a), health (b) and energy (c) sectors, as well as the shipping sector (d). In the MEDTRAGE project we will make the most of what blockchain technology offers for the provision of public services. By implementing the novelty of blockchain certificates the project aims to create a new platform for the verification and validation of transactions among regional, national and supranational bodies. Additionally, more benefits emanating from the adoption of blockchain certificates procedures from the public sector are lower energy use and lighter, hence less expensive, consensus mechanisms which are categorized as environmental benefits. The implementation of such as the aforementioned, out of the box technological solutions will make simpler, more secure, and transparent the Mediterranean states governance. The ultimate goal of the MEDTRAGE project is to create a just and trust-based society, the cornerstone of which will be the application of the blockchain technology on the aforementioned sectors with the view to achieve a smooth transition from Industry 4.0 to Industry 5.0.

3. Consortium

Partner	Country
UNIVERSITY OF WESTERN MACEDONIA	Greece
APDI	
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus
NEW.CO	Greece
UNIVERSITY ISMAIL QEMALI VLORE	Albania
GRAD GRADISKA	Bosnia and Herzegovina

2.9 DiGiNN

1. Project Identification			
Name	Cyprus DIGital INNovation Hub		
Acronym	DiGiNN		
Funding	Horizon Europe	Action	DIGITAL-SIMPLE
Call	DIGITAL-2021-EDIH-01	Proposal ID	101083772

2. Project Summary

DiGiNN will introduce a new level of support toward the digital transformation of Cyprus, as the country needs urgent action to address its digital maturity levels. DiGiNN aspires to become a one-stop-shop for all companies and public sector organisations, providing them an end-to-end experience in their digitisation journey; from coaching and mentoring by reputable experts, access to the most advanced infrastructure and facilities, support to find investments, to networking and access to innovation ecosystems. To achieve this, we gather the local champions in digital technologies, including all relevant Centres of Excellence, and partner them with both National industrial representation bodies and sectoral associations, thus establishing the direct interface between state-of-the-art offer and broad demand. Blending in are the most active incubators, whose mission is to nurture innovative start-ups in the early stages of commercialisation and support them in terms of upskilling, networking and accessing funds for further development. Finally, DiGiNN will orchestrate a number of groups and clusters, introducing representatives of the quintuple helix to ensure that our motto “Leaving no one behind” drives our activities throughout the project and creates the conditions for sustainable digital development of the local ecosystem.

Furthermore, DiGiNN takes it one step further than just being an excellent service provider and facilitator; High in our agenda is to develop a “Digital culture” among the National economy actors, by creating the appropriate ecosystem and developing working relations between the country’s economic actors and the experts who can

enable the digital transformation of private (SMEs) and the public sectors in Cyprus and Europe. This will not only drive demand, but ensure that the ecosystem continues to operate and develop once the EC and local funding is no longer available at the end of the 3+4 year period.

3. Consortium	
Partner	Country
THE CYPRUS INSTITUTE	Cyprus
CHRYSALIS LEAP LTD	Cyprus
KYPRIAKON EMBORIKON KAI BIOMICCHANIKON EPIMELITIRION	Cyprus
LARNAKA CHAMBER OF COMMERCE & INDUSTRY	Cyprus

FAMAGUSTA CHAMBER OF COMMERCE AND INDUSTRY	Cyprus
EMPORIKO KAI BIOMIXANIKO EPIMELITIRIO LEFKOSIAS	Cyprus
LIMASSOL CHAMBER OF COMMERCE AND INDUSTRY	Cyprus
EMPORIKON KAI VIOMICHANIKON EPIMELITIRION PAFOU	Cyprus
ELECTI CONSULTING LIMITED	Cyprus
I.D.E.A. - INNOVATE DEVELOP EXCEL ACCOMPLISH LIMITED	Cyprus
CS Cyprus Seeds	Cyprus
CYENS - CENTRE OF EXCELLENCE	Cyprus
PRICEWATERHOUSECOOPERS LTD	Cyprus
PAFOS INNOVATION INSTITUTE	Cyprus
UNIVERSITY OF CYPRUS	Cyprus
CYPRUS UNIVERSITY OF TECHNOLOGY (CUT)	Cyprus
OMOSPONDIA ERGODOTON & VIOMICHANON KYPROU	Cyprus
KYPRIAKO IDRYMA EREVNON GIA TI MYIKI DISTROFIA	Cyprus

2.10 ... (proposals from other partners (JADS/SAPIENZA ?)

3. Future Ideas

The ideas and concepts reported in this section have been grouped by thematic categories first and then by application areas. Therefore, easy reference to DESTINI's areas of interest is feasible

3.1 Applications of Business Process Mining

Business Process Mining (BPM) enables the monitoring and control of processes within an organization aiming at optimizing resources and performance. The corresponding ideas and concepts shall constitute the backbone for proposals in the following domains:

(a) Industry 4.0

A new proposal building upon and extending the one submitted for CO-DEVELOP national call in Cyprus will be pursued in close collaboration with the Paradeisiotis factory. This proposal will focus on Industry 4.0 aspects and more specifically the machinery used for slaughtering chicken and packaging their meat will be analyzed to investigate conformance to a desired model in an attempt to change activities and/or resources, as well as sequences for achieving a higher production rate and minimizing defects (e.g. cutting less or more portions of chicken thus wasting meat)

(b) Business Sector and ERPs

Enterprise Resource Planning (ERP) systems are nowadays the dominant supporting software for all types and sized of businesses. BPM usually retrieves logs from ERS systems to construct logs for performing model analysis and conformance checking. In close collaboration with SoftOne (Greece and Cyprus) the consortium will investigate the potential of applying BPM techniques on data residing in SoftOne's ERP concerning customers with rich number of records in the supply chain and logistics domain.

(c) Ambulance Services of Cyprus

The Ambulance Services of Cyprus (ASC) are currently in close collaboration with CUT

(not the participating group of DESTINI) to digitize their emergency call center and record all data from the time a call is received to the actual treatment of an incident. This includes dispatching of an ambulance vehicle, recording the times of departure, arrival at the scene of the emergency case, initial assessment & treatment, and carrying the patient to the hospital. All this process will be analyzed using BPM concepts and techniques in an attempt to assess the current process and juxtapose it with mortality rates and time-response of different phases. The idea is to be able to optimize this process and support the identification of gaps and weaknesses, such as the lack of personnel.

3.2 Application of Data Lakes

Data lakes, as well as data meshes, will be investigated as a way to organize data that are produced in high volume and frequency (big data). The data lake/mesh will be structured based on the notions of blueprints and the work already published by members of DESTINI and will involve the following:

(a) Healthcare

Data consisting of images, ultrasounds, MRIs, CTs, x-rays, results on tests, etc. will be collected and stored. This data describes the condition of patients with cancer or blood problems, or having increased risk of stroke (e.g. carotid plaques). This work will be carried out in close collaboration with the Cyprus Institute of Neurology and Genetics and OKYPY, the latter being the public organization that manages hospitals in Cyprus.

(b) Digital Cultural Heritage

Data consisting of images, videos, social media material, textual descriptions 2D and 3D reconstruction of monuments will be collected and used to combine information from different sources and develop the history of an artifact or monument, also known as “Mnemosyne”. This work will be carried out in close collaboration with the Digital Cultural Heritage lab of CUT.

3.3 Blockchain and NFTs

(a) Digital Cultural Heritage

This idea will be investigated in collaboration with the Digital Cultural Heritage lab of CUT. It will aim at utilizing Blockchain and in particular NFT to secure ownership of a cultural artifact. This will be particularly useful for recording on the Blockchain items in archaeological excavations as soon as they are unearthed thus eliminating theft, looting and trafficking. It will also contribute to passing of ownership of artifacts in cases in which owners of collections (e.g., museums) lend some artifacts to be used for exhibition elsewhere.

(b) Maritime

Utilization of Blockchain and NFT for modernizing processes in ships, such as bunkering and in particular refueling. There are certain strict directives from international organizations such as the IMO that require the use of contemporary techniques for monitoring seafarers capability to embark on ships or for monitoring the quality of fuel. This work will be performed in collaboration with Aratos Group in Athens, Greece, and in particular its company Aratos Maritime, engaging also shipping companies in Greece and Cyprus.

3.4 Digital Twins

(a) Digital Cultural Heritage

This idea will be investigated alongside with the Digital Cultural Heritage lab of CUT. It will target at providing a digital model of an archeological excavation or of a conceptual knowledge graph, on top of which information will be added as progress is achieved.

(b) Maritime

Utilization of DT for predictive maintenance, visualization and analytics for vessels. This technology will mainly produce a model of a ship and will enable the investigation of issues like corrosion, periodic maintenance, service programming, parts ordering etc. This work will be performed in collaboration with Aratos Group in Athens, Greece, and in particular its company Aratos Maritime, engaging also shipping companies in Greece and Cyprus.

(c) Driving Safely

In collaboration with the Ministry of Transport, Communications and Works of Cyprus, a new system for simulating driving conditions will be sought. This system will be a graphical simulator of the streets of Cyprus and is intended to serve young people with no driving license, as well as elderly people and tourists, to be familiarized with road conditions and driving actions. This will contribute to lowering mortality rate due to traffic accidents in Cyprus. Discussions have already been conducted with the minister and currently we are investigating ways to initiate the project with governmental funds.

4. Conclusions

This deliverable is a part of work package 4 and reports various concepts and ideas for preparing proposals to attract additional funding from national, regional and EU calls, and ensure a financial sustainability in the future.

Various proposals that have already been submitted by members of the consortium of DESTINI in collaboration with stakeholders and/or additional external partners were described in this document. In addition, ideas that are currently under investigation for future submission of national/EU-funded proposals are also provided.

In total, nine (9) proposals have been submitted thus far, with one (1) being selected for funding, while the rest eight (8) are still under evaluation.