

2022



ANNUAL REPORT



The Malta Council for
Science & Technology



ANNUAL REPORT

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For the year ended 31 December 2022



Hon. Keith Azzopardi Tanti
**Parliamentary Secretary for Youth,
Research and Innovation**

MOVING FORWARD WITH DETERMINATION

Following the great disruptions that COVID-19 unleashed on our country, especially wherever public events and outreach were concerned, 2022 saw the beginnings of a move towards normality. Although the first weeks of the year were characterised by a fresh spike in the number of cases, these gradually subsided and by the middle of the year, activities started slowly, but surely, picking up again.

It was in this climate that the Malta Council for Science and Technology (MCST), and our frontline interactive science centre, Esplora, had to operate in the year under review. The government that I form part of had to closely monitor the situation from day to day, and take the realities in consideration in formulating strategies for our country. Needless to say, any planning and strategic vision for Malta's progress and continued development cannot happen unless it is built around the cornerstone of research and innovation, the areas that I am responsible for at the political level, the same areas the execution of which is entrusted to the MCST.

The Government relies heavily on the input from the strategic and policy units of the MCST, which are part and parcel of its vision for the future. COVID-19 has shown us the vulnerability of certain sectors of the economy, but at the same time, it has shown us new paths and opportunities for investment in new sectors that beckon, and offer a lot of promise. MCST delivered in no small way to the resilience shown by the Maltese economy, and also contributed to the development of new sectors, and assisting

existing operations to adapt, survive and grow.

The relationship between the Government and the MCST is of a bilateral nature. Whilst the technical expertise and recommendations is passed on to the political structures from Kalkara, the Government provides its concrete commitment and support to the sector. In the meantime, we continue to allocate much-needed funds towards the operational costs of MCST and Esplora, whilst injecting money into the economy, new businesses and R&I projects through the national funding programme known as FUSION. This funding programme, which is administered by my Secretariat through the Malta Council for Science and Technology, saw its budgetary allocation go up from the €3,500,000 in 2021 to €4,100,000 for 2022, an increase of 14.6%.

FUSION is composed of various programmes which are designed in a way to offer the necessary mentoring and financial support for researchers and technologists to develop their ideas for the betterment of society. For example, FUSION, through the Research Excellence Programme call for 2022, awarded financial

assistance to no less than 15 projects in a myriad of sectors such as agriculture, health, the environment and the circular economy. Through its Technology Development Programme call for 2022, another nine projects were awarded funding in areas such as the aviation and maritime sectors, future digital technologies, health and well-being, sustainable use of resources and smart manufacturing.

Esplora, the interactive science centre that functions as the public outreach arm of the MCST also saw its activity picking up again in the second half of 2022, after many restrictions were lifted or reduced.

As we often state, the Government's policy is to support, in concrete terms, all sectors associated with research, development and innovation in our country. This must be achieved through a holistic approach that encourages collaboration between private and public, between institutes of higher education and industry.

Starting with the encouragement of STEM education in our schools and among our communities, to supporting research in our tertiary level learning institutions, we want to see our know-how and expertise continue to grow. We want to create and foster environments where collaboration and cooperation take place in synergy both within our shores, and with our Mediterranean, European and international partners. The results we achieved in 2022, notwithstanding the difficulties the whole world faced, augur well for the future, and for this one cannot but acknowledge the hard work and commitment shown by the staff within the Malta Council for Science and Technology and Esplora. We look forward to the future with confidence, which is not however based on false optimism, but rather on what we have accomplished so far, the enthusiasm we have managed to generate and the expectations we have built.

Our past is the guarantee for our future.



Silvio Scerri
Chief Executive Officer

MAINTAINING MOMENTUM

During 2022, the Malta Council for Science and Technology (MCST) maintained the momentum it had built up over the previous years in the areas of Research and Innovation. Efforts continued to focus not only on the popularisation of science among the general population, but, in line with the Government's strategic vision for the economy, striving to always increase the presence of Science, Technology, Engineering and Mathematics (STEM) education at the heart of the actions being taken to address the challenges that the Maltese society and economy face. The Council, the acknowledged leader in this field, continued to offer maximum support, both in the form of funding and in the area of knowledge-sharing, to the research and innovation business and academic community. Esplora was once again MCST's flagship outpost for community outreach, attracting thousands of visitors to the Interactive Science Centre, once the restrictions imposed upon its operations by the COVID19 pandemic started to be lifted.

This annual report is divided in two sections:

1. The report of the activity of the Technical Units forming the backbone of the Malta Council for Science and Technology (the Council);
2. The report of the activity of Esplora Interactive Science Centre (Esplora).

The activity of the Technical Units forming the backbone of the Malta Council for Science and Technology (the Council)

One of the fundamental units in the workings of the Council is the Strategy and EU Affairs Unit. This unit combines the policy perspective of the government with the European Union frameworks in which these policies have to be implemented, thus coming up with a strategy that is fit for purpose. As early as January 2022, the Smart Specialisation Strategy, an enabling condition to access European Regional Development Funds for the 2021 - 2027 programming period, was launched. This Strategy, known as RIS3, identified six priority

areas for the period, namely Health and Well-being, Sustainable Use of Resources for Climate Change Mitigation and Adaptation, Smart Manufacturing, Marine & Maritime Technology, Aviation and Aerospace and Future Digital Technologies. By July 2022, an expert Thematic Committee was set up for each one of these priority to advise the Ministry for Education, Youth, Sport, Research and Innovation on the operationalisation of key actions in each sector. These committees presented an action plan for their priority areas at the end of November 2022.

This unit also worked on developing a new Research and Innovation Strategic Plan, and a draft National R&I Strategic Plan for 2023-2027 was launched for public consultation in December 2022 for a period of five weeks.

This draft Plan was built on five overarching goals, namely Strengthening R&I Governance and Priority-Setting, Local Ecosystem Development, Enhanced Directionality through Missions and Smart Specialisation, Mainstreaming R&I in Public Policy and Strengthening R&I Implementation Structures. Throughout 2022, the Unit continued to advise and support Government in all matters related to the EU's research and innovation (R&I) and Space policies. The Unit provided regular input to the government in policy areas such as Digital, the Internal Market, the Environment and Health.

FUSION is the main instrument through which the MCST delivers government support to Research and Innovation in the form of funding for researchers and technologists to turn their innovative ideas into a market-ready reality. FUSION is supported through national funds and is managed by the MCST's R&I Unit, with the following main objectives:

- to raise the level and profile of locally-funded research;
- to ingrain R&I at the heart of the Maltese economy;
- to spur knowledge-driven and value-added growth; and
- to sustain improvements in the quality of life.

This Report details all the programmes and activities offered and supported by FUSION throughout 2022.

Space is another area in which the MCST continues to expand its horizons. The Space Research Fund was launched by MCST in collaboration with the European Space Agency (ESA) in 2018. During the course of 2022, the Space Research Fund received four applications, all of which were successful. The awarded projects commenced their work on the 1 December 2022.

The Internationalisation Unit (IU) within the Malta Council for Science and Technology (MCST) plays a crucial role in mobilising Malta-based stakeholders to actively engage in scientifically excellent, bilateral and transnational Research and Innovation (R&I) projects, by facilitating their participation in various regional and international funding

programmes. These programmes include participation at EU-level, in Mediterranean regional fora, in trans-national partnerships such as the Clean Energy Transition Partnership, the Sustainable Blue Economy Partnership and the Transforming Health and Care Systems Partnership. This Unit was also responsible for the bilateral cooperation with China and Turkey, respectively through the SINO-MALTA Fund (Malta and China Science and Technology Cooperation) and through the Cooperation between MCST and TÜBİTAK (Scientific and Technological Research Council of Turkey). This Report details all the R&I projects awarded in 2022 through Internationalisation Programmes Calls launched in 2021 and in 2022.

The Framework Programme Unit is responsible for cooperation and activity within the Horizon Europe, the EU's key funding programme for research and innovation for seven years (2021-2027), also referred to as the 9th Framework Programme. It is the EU's flagship programme to support research and innovation all the way from concept to market uptake, and has a budget of €95.5 billion. Activities within this framework range include missions and actions targeting climate-change, cancer and the restoration of European waters and oceans by 2030.

Through the work carried out at the technical level in 2022, the MCST has continued to be the key player in Malta's participation in Research and Innovation initiatives, both at the national level and at the European and international levels. The hard work, commitment and dedication of the staff of all the technical units have produced tangible results, all of which are presented in full detail in the subsequent pages of this Report.

The activity of Esplora Interactive Science Centre (Esplora).

Esplora Interactive Science Centre in Kalkara can be described as the frontline of the activities carried out by the Council, and provides the physical space for interaction with the public. On a daily basis, people of all ages and background flow in and out of Esplora, coming to experience the myriad of simple scientific experiments and experiences offered, as well as discovering the wonders of the Universe through the Planetarium. As from early 2022, we started seeing the slow lifting of the COVID19 restrictions that had been in force

and that had severely limited Esplora operations in the previous two years. In fact, 2022 saw no less than 1,345 science shows, 303 hands-on workshops and 916 planetarium shows/films being carried out.

In May 2022, the Centre launched a new initiative in order to increase its inclusivity responsibilities. The Multisensory Room, set up in collaboration with Bank of Valletta, is indeed a feather in our social responsibility cap. Many other new activities and schemes were launched during the year under report, such as the Esploronauts Kids Club, targeted for children between the ages of 5 and 10, which was launched on a Teacher's Night event in September 2022.

Activities were also presented seasonally and thematically. Through varying the shows and events on offer in response to the annual seasonal holidays and festivities, Esplora organised a diverse activity menu, boasting notable presentations for Carnival, Halloween and Christmas, besides thematic activities held in cooperation with other entities, such as for example, the Astronomical Society of Malta (ASM) and Spazju Kreattiv. Other activities were specifically targeted to welcome people with disabilities and older adults. All in all, 2022 was a year in which Esplora started to come out of the problems that COVID19 had created, and over the year, the momentum started building up again, together with the increasing number of visitors coming to participate in the many events planned for them.

Looking at the Future

The report that is to follow gives a detailed breakdown of all the activities to which I have made a brief reference in this introductory message. Notwithstanding the successes achieved and the ongoing progress shown, it is not my intention to sit back and relax, enjoying the fruit of previous endeavours. As from the 1 January 2023, I have assumed the responsibility for the Chief Executive Officer role within the Council, and it is my intention to continue to build on the sterling work that has been done so far. I thank my predecessor in this responsibility, Dr. Jeffrey Pullicino Orlando, for handing over a vibrant entity, which meant that I had to hit the ground running.

Future activity will continue to build on what has been achieved so far, and the exploration and development of new initiatives and new areas, in a firm commitment to furthering the cause of making science available to all members of our society - from kindergarten children to our captains of industry. In the coming years, we shall continue to use all the resources available to us to support the execution and implementation of the government's policies in the area of Research and Innovation, also doing our part to support other key players in these sectors, such as the Ministry for Education, and the government entities responsible for such important sectors including, but not limited to, Health, the Environment, Industry and Energy.

1. Strategy and EU Affairs Unit

The Strategy and EU Affairs Unit, henceforth referred to in this section as the Unit, plays a key role in advising Government on matters concerning research, innovation and space, both locally and within the wider context of the EU and international arenas. The Unit is also responsible for formulating relevant strategies within the realm of research and innovation. Additionally, it ensures that the fundamental principles conveyed therein are reflected in other pertinent and complementary national policies and strategies.

Amongst the key strategic documents developed and overseen by the Unit are the National Research and Innovation Strategy, the Smart Specialisation Strategy and the National Open Access Policy. Team members represent Government in numerous EU-level fora and provide support and advice in the process of developing a national position on research, innovation, space and related initiatives.

1.1 The National Research and Innovation Strategy

The Unit continued its work on the development of a new R&I Strategic Plan, building on the outcomes and recommendations of the 2019 PSF Peer Review on the Maltese Research and Innovation system and on the lessons learned from the COVID-19 pandemic. Further cross-ministerial consultations were undertaken on various aspects of the document and, following Cabinet approval, a draft National R&I Strategic Plan for 2023-2027 was launched for public consultation in December 2022 for a period of five weeks.

The draft Strategic Plan aims to ensure that a stronger governance framework, as well as the necessary resources, are in place for the expanded role of R&I as a driver of economic development. The draft Plan is designed to ensure a lasting impact on the national R&I landscape if adequate levels of resources are attributed for its correct and timely implementation. The principle of pro-active flexibility was also embedded in the Plan to ensure a reactive and dynamic approach to unforeseen events. The Strategic Plan itself was built on five overarching goals:

Goal 1: Strengthening R&I Governance and Priority-Setting	This priority seeks to consolidate Malta's relatively-fragmented R&I ecosystem under a rationalised and efficient governance model, with both political ownership and technical expertise being prioritised.
Goal 2: Local Ecosystem Development	This aspect of the Strategic Plan aims to augment the ecosystem, enhancing the presence of the private sector and incentivising strategic internationalisation.
Goal 3: Enhanced Directionality through Missions and Smart Specialisation	Through this pillar, the Plan aims to embed a sense of problem-solving directionality into the Maltese R&I framework, built on existing national priorities and frameworks.
Goal 4: Mainstreaming R&I in Public Policy	As part of a broader push by Government, this goal seeks to further bridge together R&I actors with Public Administration by enhancing the role of scientific and technical knowledge in policy drafting.
Goal 5: Strengthening R&I Implementation Structures	This final pillar outlines the plan to upscale the entities responsible for both the execution of this Strategic Plan and of the strengthening of Malta's R&I ecosystem.

1.2 Smart Specialisation Strategy

Smart specialisation is a key principle underpinning the European Commission Cohesion Policy for the period 2021-2027 in the Research, Technology, Development and Innovation priority. Similarly, to the 2014-2020 programming period, the existence of a Smart Specialisation Strategy is an enabling condition to access European Regional Development Funds in this field. Malta's RIS3 2021-2027 was launched in January 2022. It identifies six priority areas for the period 2021-2027:

- **Health and Well-being**, with a focus on cancer, cellular therapy, drug development, digital tools to support healthcare, focusing on e-health, bioinformatics and biomedical engineering;
- **Sustainable Use of Resources** for Climate Change Mitigation and Adaptation, with a focus on net-zero carbon buildings, renewable energy generation and energy storage solutions, resource efficiency in industry and turning waste into a resource;
- **Smart Manufacturing**, with a focus on sustainable manufacturing and flexible automation;
- **Marine & Maritime Technology**, with a focus on the valorisation of marine resources and maritime technology;
- **Aviation and Aerospace**, with a focus on avionics, composite materials and development of new technologies for maintenance of new products;
- **Future Digital Technologies** (this is both a vertical priority and a horizontal enabler for the former five areas), with a focus on big data and data analytics, open data, smart space applications, human-centric applications, digitising industries and sustainable use of resources, or climate change mitigation and adaptation.

In July 2022, six expert Thematic Committees - one per RIS3 area - were set up to bring together the relevant actors of the quadruple helix (government, academia, business and civil society) during the implementation stage of the Smart Specialisation Strategy and to ensure that the Entrepreneurial Discovery Process remains alive throughout the implementation period of

the Strategy. The Thematic Committees were appointed to advise the Ministry for Education, Youth, Sport, Research and Innovation on the operationalisation of key actions in each sector to unlock the innovation potential identified in the RIS3, by assessing the adequacy of available instruments, proposing new measures if needed and making any other recommendations as necessary. The committees presented an action plan for their priority areas at the end of November 2022.

1.3 The National Open Access Policy

The development of a National Open Access policy is a measure in the Government's 2017 Electoral Manifesto, which identified the need for supporting the broader dissemination of research results. The National Open Access Policy is a response to this measure. The Policy builds on the recommendations of a report by a group of experts, who were appointed in 2019 under the auspices of the European Commission's Policy Support Facility (PSF) and tasked with providing contextualised external advice and operational recommendations on defining the vision, goals and scope of a National Open Access policy in Malta.

Following Cabinet endorsement of the National Open Access Policy, a governance structure, in the form of an Executive Committee, was set up in June 2022. The Executive Committee is comprised of high-level stakeholder representatives to support the implementation of the Open Access Policy, and to ensure that the respective actions for each stakeholder are followed up.

1.4 EU Affairs

Throughout 2022, the Unit continued to advise and support Government in all matters related to the EU's research and innovation (R&I) and Space policies. The Unit maintained a close relationship with colleagues in Malta's Permanent Representation in Brussels and collaborated closely with the Ministry responsible for R&I to ensure the appropriate scrutiny and cross-governmental oversight of all pertinent EU files, providing regular input in policy areas such as Digital, the Internal Market, the Environment and Health.

In the area of EU R&I, the Unit's focus primarily centred on several important policy domains, including the adoption of Council Conclusions on the values and principles of international cooperation, on European Missions, on research infrastructures, on Open Science and on the new European innovation agenda. The Unit also actively guided the negotiations surrounding the establishment of the Chips Joint Undertaking and the formulation of guiding principles for knowledge valorisation. With regards to Space, the work largely revolved around the adoption of Council Conclusions outlining the future of the Copernicus Programme through 2035, and the topic of space traffic management. The Unit also provided advice and direction for the debates organised on the project to construct an autonomous, secure connectivity constellation and on enhancing the resilience and competitiveness of the EU's Space Programme.

The Unit continued to represent Malta in various expert groups and international fora including the European Research Area and Innovation Committee (ERAC), the ERA Forum,

the European Strategic Forum on Research Infrastructures (ESFRI), the European Research Infrastructure Consortium (ERIC) Committee and the European Open Science Cloud (EOSC), among others. The Unit's work also extended to supporting engagement with governance structures related to the European Research Area (ERA), supporting the activities carried out in connection with the ERA Policy Agenda, and the ERA's overall monitoring.

1.5 Policy Intelligence: Monitoring and Analysis

In 2022, the Unit finalised its work on the second Monitoring Report of the National R&I Strategy 2020. This report closes the 2014-2020 monitoring period, following which, monitoring will follow the approach outlined in the relevant new strategies. The report was launched in early 2022. Similarly, the Unit also finalised the second Space Policy monitoring report, covering the period 2019-2020. This report was also launched in early 2022.

2. National R&I Funding Unit

2.1 FUSION - The National R&I Programme - 2022

FUSION is a national funding programme that drives and supports local Research and Innovation (R&I), as well as providing the necessary support for researchers and technologists to turn their innovative ideas into market-ready realities. FUSION is supported through national funds and is administered by the Malta Council for Science and Technology (MCST) as the Managing Authority. The main objectives of FUSION are:

- to raise the level and profile of locally-funded research;
- to ingrain R&I at the heart of the Maltese economy;
- to spur knowledge-driven and value-added growth; and
- to sustain improvements in the quality of life.

These objectives can be achieved since research results and innovation have the potential of translating themselves into commercial activities which generate a multiplier effect on the economy, by increasing Malta's competitiveness through the creation of additional high-value and knowledge-intensive employment opportunities in Malta's priority industries.

FUSION is composed of various programmes. These programmes are designed in a way to offer the necessary mentoring and financial support for researchers and technologists to develop their ideas for the betterment of society.



Figure 1: Research Excellence Programme Logo

2.2 FUSION R&I: Research Excellence Programme - 2022

The primary aim of the Research Excellence Programme (REP) is to spur the growth of new knowledge through experimental evidence following scientific hypotheses.

The REP does this by funding novel, early-stage research, which boasts a high degree of scientific excellence through a bottom-up approach. The programme is intended to support projects of national and international relevance with the possibility of commercial applications, which could add more value to the Maltese economy.



Figure 2: The Research Excellence Programme is a national funding programme for early stage, bottom-up, non-thematic basic research.

MCST launched the third call of the Research Excellence Programme (REP) in January 2022. During the REP 2022 Call, a total of 34 applications were submitted to MCST from several entities, ranging from public entities to industry players and non-profit-making entities. Moreover, applications were received from a broad range of scientific areas ranging from Agriculture, Fisheries and Food, Digital Technologies, Energy, Engineering, Health, Marine and Maritime, and Social Sciences.

Further details with respect to the awarded projects, having a start date of 1 July 2022, can be found summarised in the table below:

Project Reference	Title	Beneficiaries	Grant Amount	Project Status
REP-2022-001 (GreASE)	Green Algae to Solve Emerging Problems in Food Security	University of Malta	€49,943	Ongoing
REP-2022-002 (LuminEye)	Robust Eye-Gaze Tracking Under Variable Illumination Conditions and Iris Occlusions	University of Malta	€49,507	Ongoing
REP-2022-003 (QVAQT)	Quantum Variational Algorithms for Quantum Thermodynamics	University of Malta	€49,974	Ongoing
REP-2022-005 (MARC)	Measuring the Architecture of Consciousness	University of Malta	€49,971	Ongoing
REP-2022-006 (Doc2Speech)	Document binarisation for Text-to-Speech Applications	University of Malta	€50,000	Ongoing
REP-2022-007 (DETECTIF)	Digital Evidence Targeting covert Cyberattacks through Timely Information Forensics	University of Malta	€49,874	Ongoing
REP-2022-008 (FLYPALS)	Towards Personalised Medicine in ALS: Fly Models of Maltese Patients to Discover Drug Targets	University of Malta	€49,999	Ongoing
REP-2022-011 (MICORE)	Combining 3D printing and Microinjection moulding for the fabrication of polymer components with embedded miniature hollow cavities	University of Malta	€49,998	Ongoing
REP-2022-013 (Aerogen)	Non-thermal plasma-activated aerosols against food-borne pathogens	University of Malta	€49,998	Ongoing
REP-2022-017 (HUMAINE)	HUman-Centred MAchine IEarning	University of Malta	€49,999	Ongoing
REP-2022-018 (MethNCowFeed)	The Mitigation of Methane Emissions and Nitrates Leaching, by dairy cows, via the improvement of feed quality	University of Malta	€49,879	Ongoing
REP-2022-020 (RECP)	Circular Economy through Recycling Poultry Waste for value-added products in Construction & Agriculture	University of Malta	€47,943	Ongoing
REP-2022-023 (AIMS1)	Aircraft Advanced Insulation Monitoring Systems: Part 1	University of Malta	€49,999	Ongoing
REP-2022-025 (EFM-DETECT)	Non-invasive early fault detection in electrical machines	T4B Services Limited	€40,073	Ongoing
REP-2022-032 (CombiHeal)	Using a Combination of Natural Products and FDA-approved drugs for Chronic Wound Healing	University of Malta	€49,073	Ongoing

Table 1: Awarded projects for the Research Excellence Programme 2022 Call

Following another successful uptake of the REP and the positive feedback obtained from interested stakeholders, MCST is envisaging to continue to relaunch this programme through the FUSION portfolio, as a single call per year, during Quarter 1. This ensures further funding for early-stage and basic research, and simultaneously entices further engagement by industrial players.

2.3 Commercialisation Voucher Programme and Technology Development Programme 2022

The Commercialisation Voucher Programme (CVP) aims at improving the development and commercialisation potential of innovative research ideas, acting as a pre-requisite for the Technology Development Programme (TDP). The latter supports the actual development of innovative projects.

Between 2015 and 2022, a total of 286 CVP applications were received from Maltese research entities. These applications targeted six Smart Specialisation areas: Future Digital Technologies, Health and Well-being, Sustainable Use of Resources, Smart Manufacturing, Aviation & Aerospace and Marine & Maritime Technologies. Following scientific evaluations by external independent experts, a total of 139 beneficiaries were selected for

funding, requesting a total of € 2.8 Million in funding. CVP funds grants up to €22,420 for public entities whilst industrial entities are eligible for €14,250 in funding.

Table 2 portrays a breakdown of 2021-2022 project submissions and funded projects per smart specialisation area. A comprehensive list of the 2021-2022 funded CVP projects, indicating their progress and status is provided in Table 3.

In 2022, we also provided five Optional CVP Vouchers to Technology Development Programme Projects, with a total commitment of around €0.4M (Refer to Table 4). These three vouchers grant a maximum of €15,000 for IP Protection, €5,000 for a Business Plan and €4,000 for Investors' Meeting preparation.

Following the 2021 success of the introduction of the General Block Exemption Regulation as a route for applicants to request aid and an increase of the maximum grant to €295,000, we launched another TDP call in 2022. After successfully completing the CVP programme, 5 projects were awarded funding under TDP during 2022. A total national funding of almost €1.5M was committed to these projects, some of which will be completed in 2025. A list of these projects is provided in Table 5, which shows projects awarded under the technology development programme during 2022. Between 2015 and 2022 inclusive, 64 FUSION TDP proposals were accepted for funding, requesting a total commitment of approximately €16.1 million.

Submitted Proposals by Sector	2022			Submitted Proposals by Sector	2021		
	Number of Proposals	Funded Projects	Percentage of Total submissions		Number of Proposals	Funded Projects	Percentage of Total submissions
Future Digital Technologies	1	1	100%	ICT	6	3	50%
Health and Well-being	5	3	60%	Health	5	3	60%
Sustainable use of resources	2	0	0%	Resource Efficient Buildings	2	2	100%
Aviation & Aerospace	1	1	100%	Aviation & Aerospace	1	1	100%
Maritime	2	2	100%	Maritime	1	1	100%
Smart Manufacturing	2	2	100%	High Value-Added Manufacturing	3	2	67%
N/A	0	0	0%	Tourism Product Development	0	0	0%
N/A	0	0	0%	Aquaculture	0	0	0%
Other	0	0	0%	Other	0	0	0%

Table 2: Breakdown of CVP project submissions in 2021 and 2022. Projects completed prior to 2021 have been removed from this table, however they can be viewed on the Council's website.

Reference	Beneficiary	Title	Status
R&I_2022_001V	University of Malta	Moorbuoy	Completed
R&I_2022_006V	UNIQ Fitness Ltd	STEPS	Completed
R&I_2022_007V	University of Malta	LOCAPSY	Completed
R&I_2022_008V	University of Malta	FERROFIDES	Completed
R&I_2022_009V	University of Malta	REALISM	Completed
R&I_2022_010V	University of Malta	SPELL3D	Completed
R&I_2022_011V	University of Malta	Hi-GEN	Completed
R&I_2022_012V	University of Malta	RIV	Completed
R&I_2022_013V	University of Malta	eHyFoil	Completed

Table 3: R&I CVP 2022 Report Table with Funded Projects

Reference	Title	Beneficiary
R&I_2017_003	RIDE+SAFE	University of Malta
R&I_2015_047	MicroCHP	University of Malta
R&I_2018_012	Eyecon	University of Malta
R&I_2017_028	MaproHand	University of Malta
R&I_2016-010	Wildeye	University of Malta
R&I_2017_038	Medsolar	University of Malta
R&I_2018_010	SmartAp	University of Malta
R&I_2019_003	SmartClap	University of Malta
R&I_2018_002	ASTREA	University of Malta
R&I_2018_007	AgentNovoBIO	University of Malta

Table 4: R&I CVP Optional Voucher 2021 and 2022 Report Table with Funded Projects

Reference	Title	Beneficiaries	Grant Amount	Status
R&I-2021-005T	SMARTSPACK	University Malta	€288,627	Ongoing
R&I-2020-022T	CountMe	University Malta	€294,998	Ongoing
R&I-2021-003T	ReCon	University Malta	€274,457	Ongoing
R&I-2021-007T	RockSense	University Malta	€294,886	Ongoing
R&I-2021-011T	WEM	University Malta	€233,181	Ongoing

Table 5: Projects Awarded under the Technology Development Programme during 2022



Figure 3: Thematic Programmes Logo



Figure 4: Smart Cities Programme is a top-down, thematic programme intended to support innovative projects under the theme of Smart Cities

In 2021, MCST expanded its FUSION portfolio to provide a more comprehensive support structure to the research community. Whilst these changes promote a wider range of technology readiness/maturity in project proposals, it also included a top-down Thematic Programme provision, intended to address a particular market failure for the year in question.

The Thematic Programme for 2022 was the Smart Cities Programme (SCP). Smart cities can be defined as cities where the interaction between different forms of data across buildings, vehicles, citizens and assets is used to manage and improve all aspects of city life. The goal of smart cities is to make cities more efficient and sustainable, consequently improving the quality of life for the residents. A framework composed of three phases of a smart city was proposed:

- Building targets novel materials and systems;
- Operating targets urban assets;
- Living targets dwellers.

Through the SCP, 15 applications were received, of which 4 were awarded, totalling funding for approximately €530,000. Further details with respect to the awarded projects can be found summarised in the table below:

Project Reference	Title	Beneficiaries	Grant Amount	Project Status
SCP-2021-001 APACHE	Aerodynamic, Pedestrian Level and Air Quality Control using Urban Vegetation Elements	University Malta	€127,958	Ongoing
SCP-2021-007 SALTT-CITY	A user-experiences-based approach for designing connected Speech and Language Therapeutic Toys in a Smart City	University of Malta (Lead) & Flying Squirrel Games Ltd. (Partner)	€144,327.80	Ongoing
SCP-2021-010 SMARTGAZ	Control of devices using EOG-based eye gaze tracking for a smart home environment	University Malta	€149,982	Ongoing
SCP-2021-013 WMS	Waste Management Solutions	IOT Solutions Ltd.	€106,395.71	Ongoing

Table 6: Awarded projects for the Smart Cities Programme 2022 Call

Using these techniques, the need to kickstart ‘space upstream’ activities in Malta was identified as the 2023 Thematic Programme, since this sector was not yet being addressed.

2.4 FUSION R&I: Technology Development Programme Lite - 2022

The Policy Support Facility (PSF) of the European Commission, as well as an expert review of FUSION undertaken by KPMG, recommended the importance of some critical updates that an applied research programme should contain to maximise its benefits to all eligible Maltese entities. It was noted that a one-size-fits-all approach to subject areas of varying nature, the current size and timelines of the programme, as well as the requirement for a public-private consortium, have created gaps in the support system, particularly when recent technology advances are requiring swifter research developments or increased expenditure. As a result, the Technology Development Programme Lite was created, and a pilot call was launched.

The primary aim of the programme is to fund projects intending to carry out research on fast-emerging technologies, at a faster pace than the traditional thematic areas requiring significant research timelines to fulfil the scope of projects.

MCST launched the Technology Development Programme Lite (TDP Lite) in September 2021 as a pilot scheme. Following the success of the first call, another **TDP Lite call** was launched in 2022. A total of **20 applications** were received, of which **11 were awarded a grant**.



Figure 5: Technology Development Programme Lite is intended to provide an expedited route for Maltese innovators to develop and demonstrate their novel technologies.



Figure 6: Technology Development Programme Lite Logo

Applications ranged from public entities to industrial players, NGOs and other non-profit making entities, and from different Smart Specialisation areas including Health, High Value-Added Manufacturing, ICT, Aviation, Resource-Efficient Building and Tourism Product Development. Further details with respect to awarded projects, can be found summarised in the table below:

Project Reference	Title	Beneficiaries	Grant Amount	Project Status
R&I-2022-002-L	SBORAEK	Malta College of Arts, Science & Technology	€138,388	Ongoing
R&I-2022-003-L	RESCIU	University of Malta	€149,999	Ongoing
R&I-2022-007-L	GRIT Study	University of Malta	€149,994	Ongoing
R&I-2022-008-L	CANTEST-3D	University of Malta	€148,832	Ongoing
R&I-2022-009-L	LEET	Four Barrels Limited	€149,606	Ongoing
R&I-2022-010-L	OiPub	Omni Iota Science Limited	€150,000	Ongoing
R&I-2022-012-L	Product eB-Valuate	AllSecure Limited	€148,600	Ongoing
R&I-2022-015-L	ACTIVE	University of Malta	€149,985	Ongoing
R&I-2022-017-L	AFTDA	University of Malta	€101,784	Ongoing
R&I-2022-018-L	REtics	SeyTravel Limited	€88,301	Ongoing
R&I-2022-019-L	S-MBRT	The BioArte Limited	€142,048	Ongoing

Table 7: Awarded projects for the Technology Development Programme Lite 2022 Call

Following a successful uptake, and positive feedback obtained from interested entities, MCST is envisaging the relaunch of the TDP Lite, as a single call per year, in Quarter 3.

2.5 FUSION R&I: Go-To-Market Programme Lite - 2022

The Go-To-Market Accelerator Programme, nestled within the broader FUSION framework, is a testament to Malta's commitment to elevating locally-funded research and innovation. This initiative focuses on taking innovative concepts, nurtured through earlier stages of development, and equipping them with the financial support necessary to thrive in the marketplace.

Key Objectives of the Programme:

- **Accelerating Market Entry** - At the core of this programme is the ambition to accelerate innovations' transition from research to market. thus enhancing Malta's competitiveness on a global scale, creating high-value employment opportunities and fostering growth;
- **Validation and Verification** - The programme ensures that innovations developed in the earlier stages are thoroughly verified and validated for real-world deployment. This phase includes technology application validation and quality assurance processes;
- **Consolidating Routes to Market** - The Go-To-Market Accelerator Programme offers a structured path to consolidate and validate prototypes, paving the way for a concrete route to the market.



Figure 7: Go-To-Market Programme Logo

Looking forward, the Go-To-Market Accelerator Programme is dedicated to accelerating research and innovation, and is designed to enable innovators to accelerate R&I activities which bring market-upstream innovations in line with the pre-commercial stages of their go-to-market strategy. 2023 promises further support for R&I projects, and a continued commitment to preparing innovations for the market.

MCST launched the first call of the Go-To-Market Programme (GTM) in July 2022. During the GTM 2022 Call, a total of 6 applications were submitted to MCST from public educational institutes, as well as from private industry players. The applications included applications in the biomedical and drug-development sector, sustainable recovery of waste heat for space heating and advanced manufacturing processes in industrial applications.

Project Reference	Title	Beneficiaries	Grant Amount	Project Status
REP-2019-003A (CuraCLAP)	Conformity and Usability Risk Assessment for SMARTCLAP Commercialisation	University of Malta & Humain Ltd	€89,401	Ongoing
REP-2015-047A (HyMiCHP)	Commercialisation of the microCHP: A compact, hybrid DC Combined Heat and Power Unit	Abertax Kemtronics Ltd	€40,113	Ongoing
REP-2017-039A (RePACT)	Revolutionary Process for Advanced Composite Tapered Poles	University of Malta & Silvercraft Products Ltd	€82,636	Ongoing

Table 8: Awarded projects for the Go-To-Market Programme 2022 Call

2.6 Space-Related Technologies - 2022

The objective of the Space Research Fund (Refer to Figure 8) is to provide financial support to encourage satellite downstream Earth Observation research, development and innovation. Satellite data has become an integral and essential component in modern day systems that concern various aspects such as the monitoring of weather, the atmosphere, land (including agriculture and urban development), the marine environment, security, climate change and emergency assistance.



Figure 8: Space Research fund logo

Considering the large amounts of data that need to be processed, the latest technological machine learning algorithms are necessary to create effective and usable data. End-user design customises datasets to suit the needs of stakeholders and to ensure that the data is represented in the most effective and efficient way.

The Space Research Fund was launched by MCST in collaboration with the European Space Agency (ESA) in 2018. Malta was considered to have a strong ICT sector that could be exploited in data processing of Earth Observation data. The Space Research Fund provides financial support that encourages Research, Development and Innovation in the downstream Earth Observation sector, with the aim of tackling societal challenges in Malta. This fund offers expertise in space-related research, which will eventually allow Maltese entities to be able to apply for more competitive space-related calls within the EU framework. To date, there have been a total of 14 out of 29 applications, which were granted funds. These applications come from public research institutions, public sector organisations and private entities. Many of the project applicants formed consortiums involving a mix of public and private sector entities.

In 2022, the Space Research Fund received a total of 4 applications, all were successful. The awarded projects commenced their work on the 1 December 2022. The table below gives details about these projects commenced their work on the 1 December 2022. The table below gives details about these projects.

Project Reference	Title	Beneficiaries	Grant Amount	Project Status
SRF-2022-1S1 BathMalta	Satellite-derived bathymetry for the Maltese Islands, and new insights for analysing groundwater outflow discharges through infrared sensors.	University of Malta	€149,965	Ongoing
SRF-2022-2S2 Demuwa	Detection and monitoring of underground water in Malta using satellite images	University of Malta	€148,863	Ongoing
SRF-2022-3S2 BEEPOLL	Developing land vegetation patterns through earth observation and AI to optimise beekeeping and pollination measures	Pixam Ltd	€139,291	Ongoing
SRF-2022-4S1 Stream	Downstream services of satellite-derived data for the Malta shelf area and Maltese Islands	MCAST	€150,000	Ongoing

Table 9: Awarded projects for the Space Research Fund in 2022

2.7 Space Education Programme

The Space Education programme is another arm in the component that aims to drive Malta to become an active participant in the global space sector. Through the collaboration between ESA and MCST, the Space Education Programme is a training and awareness campaign that bridges the gap between space application and its function in society. This programme is part of Malta's National Space Policy, which identifies a continued need for awareness-raising and related capacity building. The educational initiatives, including the AstroPi and Climate Detectives amongst others, targeted primary, middle, secondary and post-secondary schools. Organised in collaboration with the Ministry for Education and Employment, ESA and the National Interactive Science Centre - ESPLORA, the annual Space Education programme seeks to improve not only the scientific and technical insight of the younger generation, but also soft skills such as problem-solving, teamwork and communication.

In 2022, various programmes were organised to train Maltese Primary and Secondary school teachers. Training sessions in July and from September to December were hosted online on the platform on the URL below - <https://educationforms.esa.int/teachers/esa-teach-with-space-online-conference-2022-pre-registration/>

A few school challenges revolving around Astro Pi and Climate Detectives were run at primary and secondary schools. Another challenge using the ESA air pollution kit was also hosted both at Primary and Secondary school level. Training was also provided to Esplora employees who are involved in the e-Technology Lab. Some relevant URLs used follow -

<https://www.raspberrypi.org/blog/15000-young-people-astro-pi-mission-zero-2022-23/>

<https://climatedetectives.esa.int/>

In 2022, for the first time since Malta started its agreement with ESA, the country was eligible to participate in various Tertiary academic activities regularly organised by ESA. One of these initiatives was the Ladybird Guide to Spacecraft Operations Training. Three Maltese students were chosen to participate in this workshop. This was a competitive call issued to all ESA member and PECs member states, and 33 students, in total, were chosen to participate in this programme. Malta's success rate at having

three students chosen for this training session is a positive sign that Maltese students are capable of competing on an international stage as reported upon on the ESA website, as per the following hyperlink - https://www.esa.int/Education/ESA_Academy/Students_delved_into_the_world_of_operations_with_the_Ladybird_Guide_to_Spacecraft_Operations_Training_Course

2.8 ESA-MCST Traineeship Scheme

MCST also manages space-related initiatives through other adjacent agreements. An agreement between MCST and ESA was established to provide training opportunities to Maltese graduates at an ESA facility. The aims of this agreement contribute to the aims of the Space Education Programme, tailored for individuals with tertiary education seeking a career in the space domain. Through this scholarship scheme, MCST financially supports individuals' travel costs and subsistence.

A trainee who had commenced the traineeship at ESA's European Space Research and Technology Centre facility in Noordwyk, the Netherlands in 2021, successfully concluded his studies in Quarter 4 of 2022.

MCST opened another scheme with ESA, for 2023. There were four applicants for the post and two of them were awarded traineeship posts. One was awarded a post at the ESRIN ESA facility in Frascati, Italy, starting his traineeship in February of 2023, and the other was awarded a post at the European Astronaut Centre (EAC) in Cologne, Germany, starting his traineeship in January of 2023.

2.9 Internationalisation Partnership Awards Scheme Plus (IPAS+) - 2022

The IPAS+ scheme is divided in two Options. Option A supports collaborative initiatives between Maltese entities and at least one foreign counterpart, while the aim of Option B is to provide opportunities for Maltese entities planning to submit a Horizon Europe proposal as a coordinator to engage a consultant (local or foreign) who would be supporting the applicant until submission stage.

As in the previous year, the IPAS+ scheme was launched twice in 2022. Following the success

of this Programme in previous years, it was decided to increase the IPAS+ grant for both options to €6000. Through the 2022 IPAS+ Option A calls, publications were included as part of the eligible costs while for Option B graphical designer fees for improving the visual appearance of the proposal were eligible

for funding. In 2022, **Option A** attracted **29 applications while Option B** attracted **22 applicants**. A total of **26 proposals were awarded under Option A requesting a total of €150,197** in funds, while for **Option B a total of 17 projects were awarded requesting a total of €45,000** in funds.

Project Number / Name of Entity	Funds Requested
IPAS-2022-005 UOM	€ 6,000
IPAS-2022-022 UOM	€ 6,000
IPAS-2022-009 UOM	€ 6,000
IPAS-2022-006 UOM	€ 6,000
IPAS-2022-002 UOM	€ 6,000
IPAS-2022-014 UOM	€ 5,935
IPAS-2022-017 Heritage Malta	€ 6,000
IPAS-2022-021 UOM	€ 6,000
IPAS-2022-010 UOM	€ 6,000
IPAS-2022-019 UOM	€ 6,000
IPAS-2022-020 UOM	€ 6,000
IPAS-2022-004 UOM	€ 4,066
IPAS-2022-005 UOM	€ 6,000
IPAS-2022-034 UOM	€ 4,088
IPAS-2022-026 UOM	€ 5,675
IPAS-2022-029 UOM	€ 6,000
IPAS-2022-038 UOM	€ 6,000
IPAS-2022-032 UOM	€ 6,000
IPAS-2022-033 UOM	€ 5,983
IPAS-2022-047 UOM	€ 6,000
IPAS-2022-030 UOM	€ 6,000
IPAS-2022-048 MIICT	€ 6,000
IPAS-2022-043 Department of Fisheries and Aquaculture	€ 6,000
IPAS-2022-040 UOM	€ 6,000
IPAS-2022-031 UOM	€ 6,000
IPAS-2022-045 AquaBioTech Group	€ 6,000
IPAS-2022-044 AP Valletta	€ 4,450

Table 10: IPAS+ Option A 2022 Funded Projects

Project Number / Name of Entity	Funds Requested
IPAS-2022-013 UOM	€ 4,950
IPAS-2022-007 UOM	€ 5,998
IPAS-2022-011 UOM	€ 2,500
IPAS-2022-012 UOM	€ 5,875
IPAS-2022-008 UOM	€ 6,000
IPAS-2022-016 Merqury Cybersecurity Ltd.	€ 5,500
IPAS-2022-015 Acceler8	€ 5,500
IPAS-2022-001 UOM	€ 3,000
IPAS-2022-003 UOM	€ 2,500
IPAS-2022-048 UOM	€6,000
IPAS-2022-037UOM	€5,800
IPAS-2022-028 Naval Architectural Services Ltd.	€600
IPAS-2022-025 UOM	€5,875
IPAS-2022-029 UOM	€6,000
IPAS-2022-039 UOM	€5,875
IPAS-2022-036 Gozo Regional Development Authority	€6,000
IPAS-2022-035 Gozo Regional Development Authority	€6,000
IPAS-2022-027 UOM	€5,875

Table 11: IPAS+ Option B 2022 Funded Projects

3. Internationalisation Unit

The Internationalisation Unit (IU) within the Malta Council for Science and Technology (MCST) plays a crucial role in mobilising Malta-based stakeholders to actively engage in scientifically excellent, bilateral and transnational Research and Innovation (R&I) projects, by facilitating their participation in various regional and international funding programmes.

In pursuit of its key objectives, the IU designed, implemented and managed multiple R&I funding programmes in 2022. As a result of well-executed dissemination plans, which included close and proactive engagement with stakeholders to ensure effective information sharing, the IU received applications from fifty-two (52) applicants for Calls launched in 2022. Among these, ten (10) applicants successfully secured funding, with the private sector contributing 30% of the final amount. Since its establishment in 2019, until the end of 2022, the IU has disbursed approximately €5 million of local funds. In 2022 alone, through the IU, Maltese beneficiaries received approximately €0.5 million in EU funds and approximately €1.7 million in national funds (Refer to Table 11), with an additional €0.9 million planned for disbursement in 2023, stemming from the funding calls launched in 2022 (Refer to Table 12).

To enhance effective collaboration and cooperation in the scientific sphere, the IU actively participates in several internationalisation policy fora, and engages in regional and international discussions that inform and provide strategic guidance to the Internationalisation R&I bilateral and multilateral funding instruments implemented at the local level. In 2022, the IU represented Malta's participation in the Euro-Mediterranean dialogue on science and technology through participation in the **5+5 Dialogue on Research, Innovation and Higher Education and the Union for the Mediterranean Research and Innovation Platform**, leading to the Nouakchott Declaration and the Declaration from the first Union for the Mediterranean Conference on Research and Innovation, respectively.

The IU actively participated in the **ERA Forum sub-group in the Global Approach to R&I Cooperation**, which advises the European Commission services (responsible for designing, implementing and evaluating approaches and actions of international R&I cooperation), to establish coordination between the Commission, Member States and stakeholders, and to exchange experiences and good practices in the field of international R&I cooperation, including that at the multilateral level. In line with the Global Approach objectives, the IU participated and mobilised other actors in the Maltese R&I sphere to engage in multilateral dialogue on principles and values with EU Member States, Associated countries, other key countries in science and technology, and international organisations. Complementarily, the IU represented Malta's perspective in other fora including the **AU-EU (African Union and EU) high-level Policy Dialogue, the EU-CELAC (EU and Community of Latin American and Caribbean States) working group** and the **EU-KNOC initiative**, which brings together several European partners aiming to support the Commission and EU Member States in their strategic approach to R&I cooperation with China.

3.1 PRIMA – Partnership for Research and Innovation in the Mediterranean Area

The Partnership for Research and Innovation in the Mediterranean Area (PRIMA) aims to “build research and innovation capacities and to develop knowledge and common innovative solutions for agro-food systems, to make them sustainable, and for integrated water provision and management in the Mediterranean area, to make those systems and that provision and management more climate resilient, efficient, cost-effective and environmentally and socially sustainable, and to contribute to solving water scarcity, food security, nutrition, health, well-being and migration problems upstream”¹. PRIMA launches competitive Calls for R&I proposals on an annual basis, under two different

¹ PRIMA-SRIA_Strategic-Research-and-Innovation-Agenda.pdf (prima-med.org)

sections: Successful projects, selected through Section 1 calls, are funded by the European Commission, whilst successful projects selected through the Multi-topic Section 2 call are funded through the pooling of national resources from the 19 PRIMA Participating States.

MCST launched the **PRIMA Calls 2022** in the first quarter of 2022, with a national budget of €500,000 put forward for Maltese researchers to participate in regional, multilateral R&D projects in the field of Water Management, Sustainable Agriculture and Agri-Food Value Chains. Three projects with Maltese participation were selected for funding and awarded under the Section 1 calls. No projects with Maltese participation were selected for funding under the Section 2 call.

The PRIMA programme also features a third Section, which offers PRIMA Participating States the possibility of launching ancillary activities to encourage stakeholder participation in Sections 1 and 2. In 2022, the IU administered the **PRIMA Training and Mobility Scheme** for the first time, by allocating €25,000 to support Maltese entities to form collaborative links with at least one foreign counterpart from any of the 19 PRIMA Participating States. Through this award, four Malta-based entities were financially supported to develop cross-border collaborations, undertake research activities and/or training activities in the PRIMA thematic areas, with the condition of submitting a proposal to any PRIMA-related call. In addition, coordinators of PRIMA Section 1 and Section 2 project proposals could also apply to the **Proposal Writing Assistance Scheme**, yet no Malta-based coordinators benefitted from this scheme in 2022.

3.2 Joint Programming Initiatives on Healthy Seas and Productive Seas and Oceans (JPI Oceans)

JPI Oceans² was established in 2011 as an intergovernmental platform, open to all EU Member States, Associated Countries and international partners, for participating countries to strategically align national priorities when investing in marine and maritime research. This allows for augmentation of the impact of

national investments by enabling collaborative activities through the implementation of Joint Actions. Malta, through MCST, has increasingly engaged with JPI Oceans since 2013, first with an Observer Status, eventually becoming a full member of the JPI Oceans Management Board with representation in the Internal Advisory Committee.

Malta, together with Italy and Belgium, is co-leading the JPI Oceans Joint Action – **Science for the Good Environmental Status (S4GES)**, which seeks to adopt an innovative approach to the evaluation of the marine Good Environmental Status that is complementary to the Marine Strategy Framework Directive (MSFD). During 2022, MCST issued a public expression of interest to select a Maltese Marine Environmental Professional to work with a team of transnational researchers on board a state-of-the-art research vessel in the North Sea. The expedition took place in July 2022. In addition, a team of Maltese experts attended a follow-up workshop in Venice to further discuss and analyse the data collected from the research cruise.

In February 2022, the JPI Oceans Management Board launched a Scoping Action with the objective of assessing the scope, feasibility, relevance and design of a potential Joint Action addressing **Blue Carbon** as a key nature-based climate mitigation ecosystem service in the broader context of negative emissions technologies (NETs) and in providing scientific advice and evidence to help meet national, EU and international environmental and climate policy goals. During the subsequent Management Board meeting in Autumn, Malta expressed its interest in participating in this Scoping Action and has since nominated Maltese experts to be part of the expert group to write the concept paper intended to be presented to the JPI Oceans Management Board in Spring 2023.

The ERA-Net Co-Funds MarTERA and Blue Bio are two other JPI Oceans Joint Actions in which MCST actively participated. MarTERA was concluded in 2022, yet the projects supported through this initiative will continue and will be concluded in the coming years. On the other hand, BlueBio will be concluded in 2024.

Blue Bio³ is an ERA-NET co-fund that aims

² <https://jpi-oceans.eu/>

³ <https://bluebioeconomy.eu/>

to strengthen Europe's position in the blue bioeconomy sector, through coordinated R&D. It is made up of 27 partners from 16 countries, who collectively organise annual joint calls for proposals to support transnational research projects in the sphere of blue bioeconomy.

The 2nd Additional Call, which was launched in 2021, set out to facilitate research and innovation projects to deliver impacts on one of the following topics: sustainable exploration of the aquatic environment and biological resources; sustainable and resilient biomass production and processing and traceability and regulatory constraints. Through this call, two projects involving Maltese entities within project consortia were awarded in 2022. Additionally, a 3rd Additional Call was launched in 2022, entitled 'Amplifying project reach and knowledge impact'. This Call was exclusively open to BlueBio beneficiaries with the aim of increasing impact of awarded BlueBio projects through additional activities related to (i) Dissemination of research and results, (ii) Training exchange and capacity building, (iii) Business and commercialisation preparation, (iv) mapping of relevant policy landscape, (v) barriers to commercialisation pathway.

The IU is always looking into the possibility of participating in, potentially also spearheading, Scoping Actions that are of national interest. Once Scoping Actions are endorsed by the JPI Oceans Management Board, they can be further developed by interested JPI Oceans members and implemented through fully-fledged Joint Actions.

3.3 The SINO-MALTA Fund - Malta and China Science and Technology Cooperation

The **SINO-MALTA Fund**⁴ originated from the framework of the Agreement on Science & Technological Cooperation between the Government of Malta and the Government of the People's Republic of China (PRC), supported by subsequent agreements. Its primary objective is to enhance scientific collaboration between the two countries by strengthening Research & Development (R&D) activities, facilitating technology transfer, and fostering comprehensive, stable and long-term cooperation. This is achieved through support

for researchers' mobility and the establishment of networks among industries, universities and research institutions, ultimately promoting mutually beneficial and win-win research endeavours.

In 2022, the 4th Call for proposals for R&I projects was thematically aligned with Digital Technologies, Health Innovation and the Green Transition, and the allocated budget was increased to €800,000 to support four projects. This Call received an outstanding 33 applicants, constituting 64% of all IU applicants in 2022, making it the most successful Call across programmes within the IU to date.

3.4 Cooperation between MCST and TÜBITAK (Scientific and Technological Research Council of Turkey)

In 2020, MCST signed a bilateral agreement with TÜBITAK, with the aim of encouraging cooperation in the field of science, technology and innovation between research entities, universities, research institutes and industrial enterprises from Turkey and Malta.

Following the work undertaken during 2020, a 1st Joint Call for funding R&I projects was launched in 2021, with a total national budget of €200,000. This first call was launched as a Section 3 Participating State Initiated Activity under the umbrella of the PRIMA programme (Refer to Section 3.1), with the aim of supporting bilateral R&I collaboration in the fields of water management, sustainable agriculture and agro-food value chains. The results of the 2021 Call were issued in January 2022, whereby two projects of ca. €100,000 each, were selected for award and funded. A 2nd Joint Call was subsequently launched in Q2 of 2022, and one project of ca. €100,000 was selected for award and will be funded in 2023.

3.5 Horizon Europe Partnerships

During 2021, MCST secured a budget of €10.5 M to support Malta-based entities when participating in three Horizon Europe (HE) co-funded partnerships over the course of the programming period 2021-2027. MCST recognised the potential of candidate

⁴ <https://mcst.gov.mt/sino-malta-science-technology-cooperation/>

to be addressed to further develop Malta's R&I landscape. These thematic areas are the transition towards climate neutrality, sustainability in the blue economy sector and the strengthening of Malta's health innovation sector. Consequently, in 2022, preparatory work on these three partnerships were carried out, culminating in the launch of the Horizon Europe Clean Energy Transition Partnership (CETPartnership), as well as the signing of two Grant Agreements, which sealed Malta's participation in the Transforming Health and Care Systems Partnership (THCSP) and the Sustainable Blue Economy Partnership (SBEP).

3.5.1 Clean Energy Transition Partnership

The **Clean Energy Transition Partnership (CETPartnership)** is a joint, transnational initiative on Research, Technological Development and Innovation (RTDI) programming to boost and accelerate the energy transition. The overarching aim of this Partnership is to empower the energy transition and contribute to the EU's goal of becoming the first climate-neutral continent by 2050, through the launch of at least six calls until 2027.

The Partnership gathers more than 50 partners from 30 EU Member States, HE-associated countries and non-EU countries. These partners launched the first transnational call in 2022 with the aim of funding projects that develop applicative solutions and provide results for the clean energy transition in one of the seven set thematic configurations of the Partnership. These include the integrated net-zero energy systems at the regional and industrial level and within the built environment, as well as enhanced zero emission power technologies, storage technologies, renewable fuels and efficient heating and cooling solutions. The results of the 2022 call are expected by mid-2023.

3.5.2 Sustainable Blue Economy Partnership

In 2022, the MCST officially joined the **Sustainable Blue Economy Partnership (SBEP)**, which is a joint, transnational initiative that enables an unprecedented effort to pool R&I investments and align national programmes at pan-European scale, taking into consideration the sea-basin and Atlantic Ocean dimension. The Partnership gathers 60 partners from 25

EU Member States, HE-associated countries and non-EU countries. These partners will launch annual Joint Transnational Calls until 2027 for R&I projects. On behalf of the Ministry for Education, Sport, Youth, Research and Innovation (MEYR), MCST will be allocating a total of €3.5 million to be availed of by Malta-based applicants until 2027. The first Joint Call for R&I proposals will be launched in Q1 2023, and submitted proposals shall address one of the following intervention areas: Development and validation of ocean digital twins at sub-sea-basin scale; Blue generation marine structures; Planning and managing sea-uses; Healthy blue food under a one health approach; and Enabling the green transition of blue food production.

3.5.3 Transforming Health and Care Systems Partnership

The **Transforming Health and Care Systems Partnership (THCS Partnership)** is a joint, transnational initiative on research within the health sector. Its general aim is to maintain and improve people's health by supporting the transformation of the health and care systems to achieve high quality, accessible, sustainable, efficient, resilient and inclusive health and care systems for all.

This Partnership gathers more than 60 partners from 24 EU Member States, HE-associated countries, and non-EU countries. These partners will launch annual Joint Transnational Calls for R&I projects until 2027. On behalf of MEYR, MCST will be allocating a total of €3.5 million to be availed of by Malta-based applicants. The first Joint Call for R&I proposals will be launched in Q1 2023.

3.5.4 Partnership Knowledge Hub (PKH)

The **Partnership Knowledge Hub** is considered the core of the Strategic Coordinating Process. The PKH allows working-level interactions and meetings, including representatives from the European Commission, EU Member States and Associated Countries within Horizon Europe to discuss any work in relation to implementation of partnerships.

In 2022, the IU continued to participate in quarterly PKH meetings. Indeed, during this year the first Biennial Monitoring Report on partnerships in Horizon Europe was published. This report aimed to provide a strong and continuously-evolving evidence base to guide the implementation of European Partnerships throughout their life cycles, and to inform strategic discussions on Horizon Europe's new policy approach to them. The IU contributes to this reporting by consolidating information on European Partnerships in Malta to be submitted in the country fiche part of this report. Also, in 2022, the first European Partnership Stakeholder Forum was organised, for which MCST participated online. This forum aimed to bring together the whole community of co-funded, co-programmed and institutionalised partnerships, and focused on the review of the first year of partnerships and how they can contribute to twin green and digital transitions, as well as increasing Europe's resilience.

3.6 plumtri – The Platform focussing on Research and Innovation in the Mediterranean Region

The IU operates and administers the **plumtri**⁵ **web platform**, which serves as a comprehensive resource for researchers and entities in the Mediterranean region interested in R&I. This platform is continuously updated throughout the year, offering the latest news, events, funding opportunities, traineeships and job listings, making it a comprehensive source of information in the field of R&I related to the Mediterranean region. The information is further disseminated and made accessible through the issue of a monthly newsletter, as well as through supporting social media channels. Monthly analyses and strategic planning are continuously carried out to maximise **plumtri**'s reach, quality and effectiveness.

In 2022, the number of registered users continued to steadily increase, reflecting a growing interest in the platform. Notably, the **plumtri** portal was officially integrated into the 5+5 Dialogue Research, Innovation and Higher Education Workplan for 2022 to 2024.

⁵ <https://www.plumtri.org/>

Table 12: The table below lists the R&I projects awarded in 2022 through Internationalisation Programmes Calls launched in 2021 and in 2022.

Funding Programme	Project Reference	Title	Beneficiaries	Grant Amount*
PRIMA Section 1 (EU Funds) - Calls 2022	CIPROMED	Circular and inclusive utilisation of alternative proteins in the Mediterranean	AquaBioTech Ltd.	€175,000
	PROXIMED	Exploration and implementation of products with alternative proteins in Mediterranean area	MCAST	€190,000
	WEFE4MED	Towards a Mediterranean WEFE nexus community of practice	Energy and Water Agency	€123,375
PTMA - Call 2022	CROPGEN	Cross board knowledge transfer on genetic diversity and genome-wide association studies of crops using the pulse peanut as a model crop	University of Malta	€4,996
	ELAIWA	ELAIWA - project aim to resolve water scarcity effects derived from climate change on olive trees	WES Trade LTD	€4,290
	DRONE4BEES	Using drones to study bee foraging range	University of Malta	€4,166
	MaraMediterra2	Planning for a PRIMA funded Mara-Mediterra-2	Integrated Resources Management Co. Ltd.	€3,016
MarTERA - Call 2021	SMARTPOL	Autonomous network system with specialised and integrated multi-sensor technology for dynamic monitoring of marine pollution.	MCAST	€169,790
			AquaBioTech Ltd	€84,807
	ProNiCare	Transnational cooperation for protecting niche areas (from [marine] corrosion and biofouling) by green coatings and new test technologies	AquaBioTech Ltd	€263,794
Blue Bio ERA-NET Co-Fund - Call 2021	BIORAS SHRIMP	Improvement and innovation of a BIO-secure recirculating aquaculture system for shrimp and additional biomass circular production	MAFA-DFA	€150,000
			AquaBioTech Ltd	€149,685
	EUFish_Sustainable Growth	European fisheries enhancement through 'Omic' characterisation and innovative seafood production from underutilised fish species	AquaBioTech Ltd	€89,958
SINO-Malta Fund - Call 2021	AMBULANT	Autonomous bio-mimetic underwater vehicle for digital cage monitoring	AquaBioTech Ltd	€33,242
			MCAST	€149,976
	BIMA	Dual-fuel engine technology and dynamic behaviour improvement for marine application	University of Malta	€190,000
			Gozo Channel	€10,000
	CHI MA HAEM NET	Application of precision medicine in Haemophilia network: A joint original exploration research between Malta and China	University of Malta	€199,921
MCST TUBITAK - Call 2021	ANTIVIRAL MEDHERBS	Investigation of antiviral activity and immunodulatory effects of Mediterranean herbs and spices against SARS-CoV-2 using in vitro models	MCAST	€99,532
	OPOBICELL	A complete sustainable route for the utilisation of olive pomace: Production of bio actives and nanocrystalline cellulose	MCAST	€99,723

* Figures rounded up to the nearest Euro

Table 13: The table below lists the R&I projects that shall be awarded in 2023 through Internationalisation Programmes Calls launched in 2022.

Funding Programme	Project Reference	Title	Beneficiaries	Grant Amount*
MCST TUBITAK - Call 2022	UNIMED	Unified framework to cope with droughts under Mediterranean climate-change conditions	Integrated Resources Management Co. Ltd.	€75,000.75
		Exploration and implementation of products with alternative proteins in Mediterranean area	MCAST	€24,998.28
SINO-Malta Fund - Call 2022	To be identified in 2023			Ca. €800,000.00

4. Framework Programme Unit



Project Reference	UNIMED
	To be identified in 20

Horizon Europe is the European Union’s (EU) key funding programme for research and innovation for seven years (2021-2027), also referred to as the 9th Framework Programme. It is the EU’s flagship programme to support research and innovation all the way from concept to market uptake, and has a budget of €95.5 billion.

Horizon Europe aims at strengthening the scientific and technological base of the EU while tackling major global challenges, contributing to the Sustainable Development Goals and strengthening the European Research Area (ERA). At the same time, the programme aims to boost Europe’s innovation capacity and competitiveness.

To achieve this aim and build on the success of its predecessor, Horizon 2020 (2014-2020), Horizon Europe continues to support the whole research cycle, deliver on the EU strategic priorities and facilitates collaboration. The programme is built on three pillars and horizontal actions:

Pillar 1 - Excellent Science;

Pillar 2 - Global challenges and European Industrial Competitiveness.

Pillar 3 - Innovative Europe.

Horizontal Actions: Widening Participation and Strengthening the European Research Area.



The programme comes at challenging times for both EU and the planet. The main objectives include tackling climate change, thereby achieving the United Nations' Sustainable Development Goals. Indeed, as much as 35 per cent of the budget will be allocated to climate objectives to achieve green restructuring and sustainable value creation. Horizon Europe incentivises both the industry and communities in developing new tools for the challenges ahead. This by fostering research and innovation, thus maintaining the EU's place as a leader in research and innovation for decades to come.

4.1 European Partnerships

European Partnerships are an instrumental tool of Horizon Europe as they bring together the European Commission and private and/or public partners to address some of Europe's most pressing challenges, which cannot be addressed by Horizon Europe alone. Up to 50% of the budget for Pillar 2, amounting to 25% of the total budget for Horizon Europe, is channelled towards these partnerships. By bringing these partners together, partnerships help to avoid duplication of investments and contribute to reducing the fragmentation of the research and innovation landscape in the EU. There are mainly three types of partnerships:

Co-funded – partnerships involving EU countries, with research funders and other public authorities at the core of the consortium;

Co-programmed – partnerships between the Commission, private and public partners, based on a memorandum of understanding;

Institutionalised – partnerships between the European Union, Member States and industry, requiring legislative proposals and based on Council regulations.

The Malta Council for Science and Technology is participating and contributing budget allocations to three co-funded partnerships: Transforming Health and Care Systems (THCS); Clean Energy Transitions; and Climate Neutral, Sustainable and Productive Blue Economy (SBEP). These three partnerships are managed by the Internationalisation Unit within MCST.

Malta is being represented by the Framework Programme (FP) Unit, together with relevant Ministries representatives, on several **Member State Representative Groups (MSRGs)** created for certain partnerships. The MSRGs aim towards

providing advice on strategic issues related to the partnership. Complementarity is ensured with national priorities and policies thanks to the support provided by these MSRGs.

4.2 Missions

The EU Missions are bold, inspiring and clearly defined goals to tackle issues that affect our daily lives such as health, climate and the environment. EU Missions put citizens at the heart of policy making and are part of a wider European vision. They empower societies to develop and engage the required policy measures through legislative initiatives, thus accomplishing defined goals that would greatly impact future societies significantly. The main goal is to set all tasks in motion for implementation within set timeframes by the respective communities, to reach the 2030 EU's goals.

Since their launch (September 2021), Missions have gained importance and stride across research communities within the EU and beyond. In less than two years, the five EU Missions have created impact on their own, or else collectively.

Some major achievements per missions can be categorised as follows:

1. **Adaptation to Climate Change** - support at least 150 European regions and communities to become climate resilient by 2030.

To date, 308 regional and local authorities have signed the Mission Charter to demonstrate their political commitment to this mission's objectives. The implementation platform was also launched in January 2023 to support the regions in the mission. Further to this, mission's projects are also supporting regions in their climate risk and vulnerability assessments;

2. **Cancer** - working with Europe's Beating Cancer Plan to improve the lives of more than 3 million people by 2030 through prevention, cure and solutions to live longer and better.

At an EU level, this mission created a platform for dialogue between Member States by bringing together health and research ministries through the expert group for Public Health. The launch of the National Cancer Missions Hubs will support

this dialogue further with the national stakeholders for cancer prevention. The mission has also enabled the UNCAN.eu website, a European data hub on cancer. This data hub will help researchers analyse combined research, health and other relevant data in relation to cancer;

3. Restore our Ocean and Waters by 2030 -

The objective of this mission is to protect and restore the marine and freshwater ecosystems, whilst supporting the sustainable and circular blue economy. To date, this mission has set up four Mission Lighthouses in the Major EU Sea and river basins, to demonstrate the solutions to achieve its objectives. With more than 480 actions under the mission’s charter, mobilising more than 3.7 billion Euros, where different regions are committing the interest to support the mission through innovative measures.

Malta participates in 3 actions in this mission so far and will seek to find synergies between it and other initiatives, such as the Maritime Hub and the Sustainable Blue Economy Partnership;

4. 100 Climate-Neutral and Smart Cities by 2030 -

So far, the mission has already created a community of ambitious cities that are eager to be climate neutral by 2030. Through the Mission Platform, the cities can work together in groups, share

valuable information and access any climate-neutral solution that is of benefit to them. Through the CapaCITIES project, the cities started the preparation of the Climate City Contracts through the City Advisors. Malta is represented in this process through the involvement of the Gozo Regional Development Agency;

5. A Soil Deal for Europe - 100 living labs and lighthouses to lead the transition towards healthy soils by 2030.

The mission is supporting the EU Green Deal Strategies since it links policies with the actions plans required. To date, 200 activities have been launched to support the mission’s objectives, also with concrete links to the Common Agricultural Policy (CAP). Further to this, the mission will also develop the Territorial Soil Management Agreements for soil health with the support of the Mission Soil platform, the one-stop-shop for information and activities of the mission.

MCST, being the main contact point for Missions, helps disseminate Missions’ information through the Thematic Cluster National Contact Points (NCPs), who support and disseminate this information to prospective applicants. Missions were promoted significantly in 2022 by the National Contact Points and there is currently Maltese participation in all Missions through projects.



4.3 European Cooperation in Science and Technology (COST)

Together with Horizon Europe, MCST also promotes and encourages local researchers to involve themselves in COST Actions. Founded in 1971, COST receives EU funding through various Research and Innovation Framework Programmes, at present Horizon Europe. COST helps in the creation of research networks, called COST Actions. With these Actions, COST's interdisciplinary bottom-up networks are bridging the innovation divide in Europe. This can be done only thanks to the bottom-up approach exposing all scientific fields to research through collaboration and networking. In 2022 Malta joined 38 new COST actions and was active in total of 175 COST Actions (CA) thus being represented in 66% of the CAs.

4.4 Joint Research Centre (JRC)

The Joint Research Centre (JRC) is the European Commission's science and knowledge service. The JRC provides independent, evidence-based knowledge and science, supporting European Union policies to positively impact society. It contributes to EU policy-making in a variety of key areas from agriculture and food security to the environment and climate change, as well as in digital transition, innovation and industrial policy, and nuclear safety and security. In 2022, the JRC revitalised its 2030 Strategy, which now seeks to strengthen the JRC's role and to improve its capacity to anticipate new challenges and opportunities.

During 2022, it was ensured that further awareness about the JRC was raised, while also carrying out dissemination and outreach of the JRC workshops and activities not only to the stakeholders from the scientific community and industry but also to public authorities.

4.5 Implementation of Horizon Europe in Malta

The Malta Council for Science and Technology (MCST) is mandated by the Maltese Government to act as the National Contact Point Organisation for the EU R&I Framework Programme, as well as representing Malta as Programme Committee Member for each group.

4.5.1 National Contact Points

Local stakeholders are currently supported by six National Contact Points (NCPs) under the guidance of the NCP Coordinator. Each NCP provides specialised knowledge and guidance in their respective areas and together they provide the necessary support and actively encourage local stakeholders participating in the R&I Framework Programme. The Framework Programme (FP) Unit offers a variety of services at any stage of the applicant's proposal, including:

- Providing information on the FP and guidance in choosing relevant topics and calls;
- Tailored one-to-one meetings providing specialised support;
- Dissemination of information through information sessions, webinars, presentations at events, mail shots and social media;
- Partner Search facility;
- Pre-proposal checks;
- Assisting with legal and financial issues;
- Dedicated workshops tailored for entities;
- Proposal-writing workshops;
- Providing advice on project management
- Providing additional support through National funding schemes; and
- Creating digital content to promote success stories.

Throughout 2022, the NCPs held more than 500 one-to-one meetings with local stakeholders, and organised numerous events and training sessions (details below).

4.5.2 Programme Committee Members

The FP Unit also serves as the Programme Committee Member (PCM) for Horizon Europe. The PCMs assist the European Commission (EC) in implementing the programme through strategic discussions on planning and ensuring links to nationally-funded research activities. Negotiations of the work programmes and calls are the primary focus of the PCMs' work. The PCMs consult with various specialists, governmental organisations and other relevant stakeholders, to get their perspectives on the EC's proposed work programmes. This feedback is relayed back to the EC through the proper channels. Once the feedback is received by the EC, where applicable, it is reflected into the work programmes. Finally, a formal vote is taken by the committees to approve, or otherwise, the final version of the work programmes before

they are published. PCMs also participate in the strategic and political discussions across the areas they represent.

PCMs also have insight on the evaluation results of the work programme calls and, once the EC finalises the main listed proposals, a vote is taken to approve the proposals for funding. The PCMs also have a very crucial role in linking the national research ecosystem to the European one and vice-versa, and this is attained through the close contact they have with local research stakeholders and policymakers, as well as them being constantly updated by the EC through committee meetings.

All Programme Committee meetings are attended by the FP Unit, however, when strategic discussions are taking place, the committee members discuss such matters with Ministry representatives and the Thematic Expert Groups.

4.5.3 Thematic Expert Groups

The Thematic Expert Groups were launched in November 2021 with the objective of supporting the Horizon Europe Programme Committee Members (PCMs) in the collection of feedback in relation to work programmes or other important documentations coming from the European Commission. To date, the thematic expert groups have already contributed support to the PCMs by reflecting the national interests in the upcoming cluster and Missions work programmes.

The current set-up of the Thematic Expert Groups (TEGs) is as follows, with the major clusters being represented. Each TEG will be chaired by a PCM from the FP Unit:

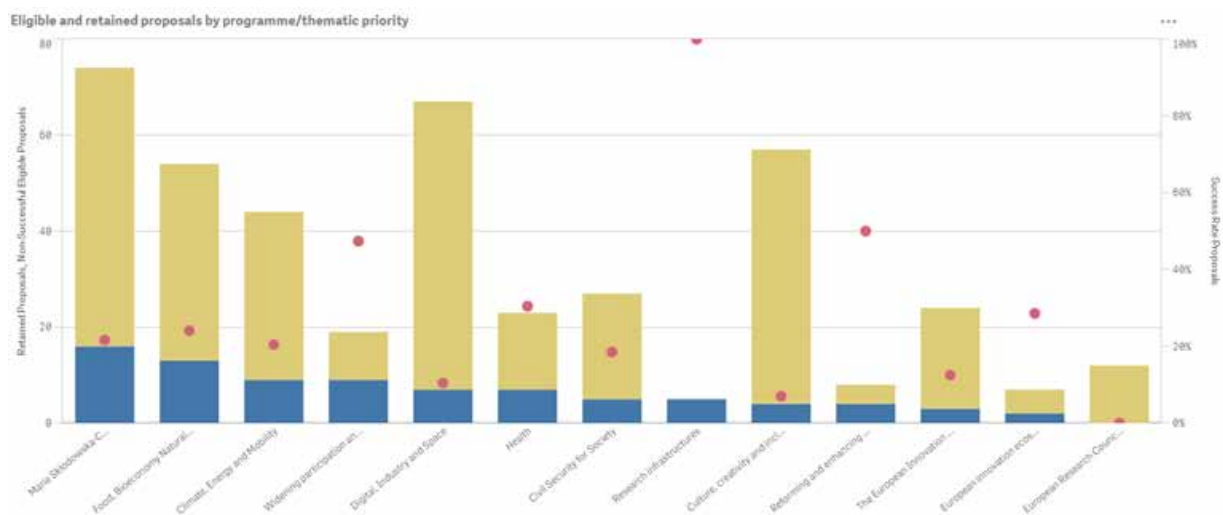
- Research Infrastructures;
- Health;
- Culture, Creativity and Inclusive Society;
- Civil Security for Society;
- Digital, Industry and Space;
- Climate, Energy and Mobility;
- Food, Bioeconomy, Natural Resources, Agriculture and Environment.

The members of the TEGs represent various sectors, such as Academia, Public Service, Public Sector, NGOs and SME representative groups.

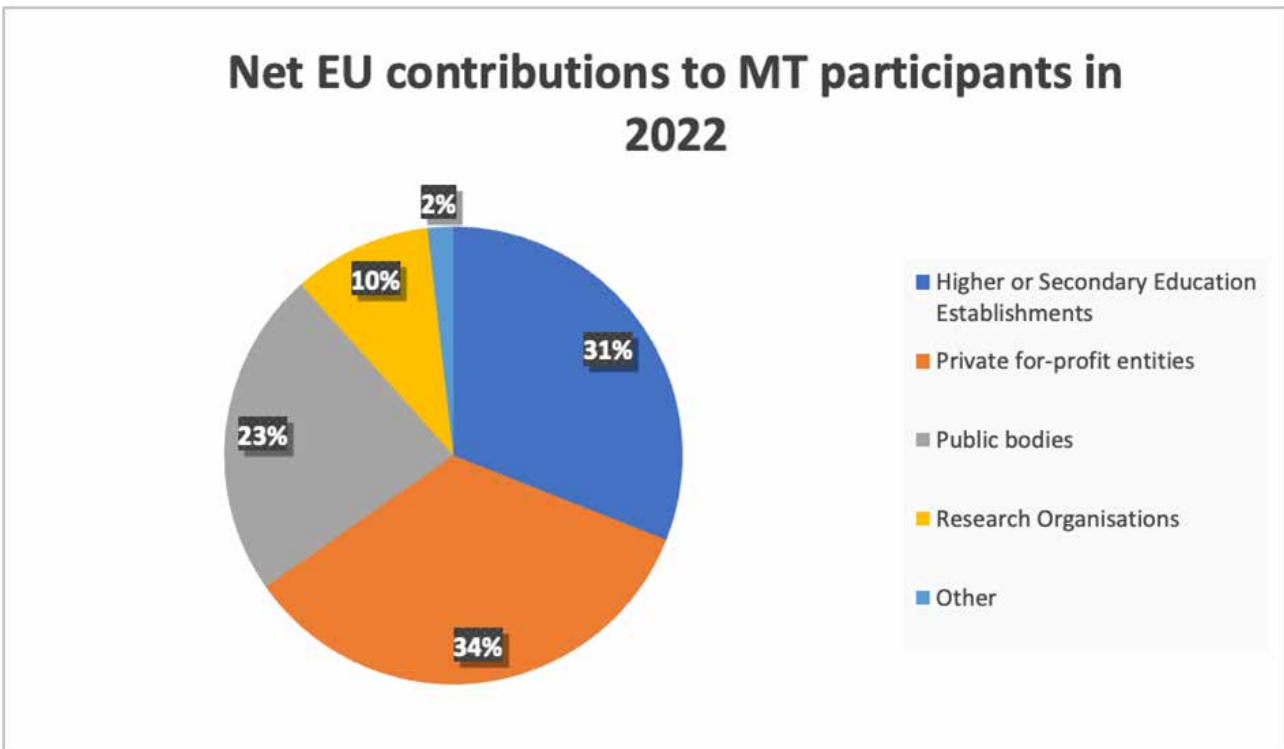
The groups have been alive as much as possible and to date, there were around 20 distinct instances where PCMs consulted with the TEGs for feedback and support.

4.6 Malta's participation in Horizon Europe

Malta has had a very positive and active start in the Horizon Europe Programme in terms of participation and funding. In terms of proposals, by the year 2022, Maltese participants were involved in 421 eligible proposals. In 2022, 37 unique Maltese participants were involved in 91 successful participations and signed a total of 72 grant agreements. The total costs for these grant agreements amount to €31.31 million and Maltese participants will receive a net contribution of €22.92 million. Malta had an overall success rate of 21% in 2022, which translates to a 1/5 ratio of Maltese participants getting funding for activities in Horizon Europe. Since the start of Horizon Europe, Maltese entities have received a net contribution of €31.46 million from 97 signed grant agreements. The graph below depicts the amount of retained proposals, non-retained proposals and success rate of the thematic areas.



Organisation Type	Net EU Contribution in 2022 (€M)
Higher or Secondary Education Establishments	7.11
Private for-profit entities	7.85
Public bodies	5.31
Research Organisations	2.24
Other	€ 0.417



4.7 National Support Schemes 2022

The Framework Programme Unit has been entrusted with national budget through which the following support schemes have been launched, aiming at increasing and strengthening the participation from local participants into the Horizon Europe programme:

- PF2MT** - The Postdoctoral Fellowship Training Scheme for Incoming Postdocs to Malta (PF2MT) supports travel and accommodation expenses for experienced researchers willing to submit a proposal with a Maltese entity as host (beneficiary) for the MSCA Postdoctoral Fellowship call. The support, in the form of a lump sum grant, is for the participation of the researchers in the MSCA Postdoctoral Fellowship

training to be held annually in Malta. The Scheme was open for applications for those experienced researchers who had already identified their supervisor and planned to apply for the 2022 call with a Maltese host entity. The masterclass for proposal-writing training was held on 12 July with around 30 participants. Four MSCA post-doctoral Fellows have been selected for funding under the 2022 call. All four of them had attended the masterclass training;

- ERC Support Scheme** - The European Research Council (ERC) Support Scheme aims to strengthen the opportunities for talented researchers to obtain grants from the Horizon Europe ERC for excellent and ground-breaking research based on researchers' own ideas within all areas of research. The Scheme is divided into two options -

Option A: Mentoring initiative - The mentoring initiative will support potential ERC applicants by helping to identify international experts to provide coaching and advice.

Option B: Proposal writing trainings - The objective of this activity is to raise the capabilities of potential ERC candidates to prepare successful ERC grant applications through attending ERC proposal writing training sessions (online or physical).

During 2022, the call was open with three cut-off deadlines, resulting in five proposals being supported, one of which has been invited to a Step 2 interview;

•**EIC Support Scheme** - The EC launched the European Innovation Council (EIC) programmes for innovative SMEs under Horizon Europe. This programme supports all stages of technological development, be it initial stages of research (Pathfinder), technology development and demonstration (Transition) or commercialisation and scale up (Accelerator). It opens funding opportunities worth over €9.5 billion in 2021-2027 for breakthrough innovators to scale up and create new markets, with grant size up to €2.5 million and the possibility to access equity funding.

Due to its highly competitive nature, its bottom-up approach and focus on private sector innovation, the FP Unit at MCST developed an EIC Support Scheme to help Maltese companies develop high-quality applications. The scheme is intended to support Malta-based SMEs (including Start-Ups), for both the short- and full-stage application of the EIC Accelerator. The

applicants can apply for Option A and/or B (€5,000 and/or €2,000 business and pitch coaching for the short-stage application), or Option C (€10,000 proposal development grant for the full-stage application).

In 2022, Braintrip, a Maltese SME, applied to the EIC Support Scheme, after having been passed the EIC Accelerator 1st stage for Option C, to hire a consultant to write a full proposal. This support allowed the company to hire experienced consultants to develop a full proposal, increasing the chances of success.

Considering the limited take-up of the scheme, the support scheme was reformed in 2022 for the following fiscal year to be open to Pathfinder, Transition and Accelerator beneficiaries;

•**International Partnerships Awards Scheme Plus (IPAS+)** is divided into two options -

Option A: opportunities for collaborative initiatives between Maltese entities and at least one foreign entity of proven track record of excellence. Proposals should describe the nature of the joint activities that would be funded through the Award.

Option B: opportunities for Maltese entities intending to submit a Horizon Europe proposal as the coordinator of the consortium to engage a service provider (local or foreign) who will be supporting the applicant through proposal writing and submission. The Framework Programme Unit manages Option B and the amount of the award available to any one successful applicant is capped at €6,000 per Option.

Successful applicants for Option B in 2022 - CALL 1

Josianne Cutajar	University of Malta
Arrif Rochmann	University of Malta
Claude Bajada	University of Malta
Stephanie Bezzina Wettinger	University of Malta
Stelios Bekiros	University of Malta
Michael Galea	University of Malta
Alfred Gatt	University of Malta
Antti Heikkillä	Acceler8 Ltd
André Xuereb	Mercury Cybersecurity Ltd

Two of the applicants have already succeeded in having their proposal main listed.

Emmanuel Sinagra	University of Malta
Pierre Schembri Wismayer	University of Malta
Kurt Mizzi	Naval Architectural Services Ltd.
Milosh Raykov	University of Malta
Tony John George Apollaro	University of Malta
Charmaine Bonello	University of Malta
Marthese Cassar	Gozo Regional Development Authority
Marthese Cassar	Gozo Regional Development Authority
Simon Fabri	University of Malta

4.8 Events in 2022

Throughout 2022, the Framework Programme Unit organised a total of 20 information and/or training sessions. Events were either held

physically or online. Moreover, the NCPs were invited to present at another 17 events organised by other entities.

Table below shows events organised by the MCST:

Horizon Europe and Creative Europe Programme	19/01/2022	Online
Horizon Europe Information Day	25/01/2022	Physical
European Innovation Ecosystems (EIE)	14/02/2022	Online
Excellence Hubs Information session	17/02/2022	Online
European Innovation Council and the EIC support scheme	24/02/2022	Online
IPAS+ info session	17/03/2022	Online
MSCA Doctoral Networks at Grants Week	22/03/2022	Physical
MSCA Post-Doctoral Fellowships and PF2MT	27/04/2022	Online
Doctoral School workshop	28/04/2022	Physical
MCAST training	06/05/2022	Physical
MSCA PF proposal writing	06/07/2022	Physical
NET2HE Info session	15/07/2022	Online
Gender Equality Plans audits training	20/07/2022	Online
Meet your NCP Day at UOM	15/09/2022	Physical
IPAS+ info session	26/09/2022	Online
EIT workshop	12/10/2022	Online
Local Councils Info Day	25/10/2022	Physical
MCAST Info Day	28/10/2022	Physical
MSCA Staff Exchanges	15/11/2022	Online
Horizon Europe info day and launch of new WPs	30/11/2022	Physical

Table below shows events organised by other entities:

MABS Conference	03/05/2022
Valletta Tech Summit	27/04/2022
Venture Networking	18/05/2022
MSCA PF China	26/05/2022
MSCA PF Southeast Asia and Korea	25/05/2022
Bee visiting	25/05/2022
1 ST Postgraduate Conference in Islands and Small States	20/06/2022
MEYR Business Breakfast - EU Funds Best Practices	05/09/2022
Chamber of Engineers	14/10/2022
AUM event	21/10/2022
Cyberroot Event	26/10/2022
MEDPOWER	7-9/11/2022
Playcon	04/11/2022
Meet the Employer	11/11/2022
Presenting at the European Studies Institute	02/12/2022

5. Projects

5.1 National Contact Point (NCP) Networks

The Framework Programme Unit participates in several NCP networks across the Horizon Europe Programme. The networks facilitate trans-national cooperation between NCPs, identifying and sharing good practices and raising the general standard of support to programme applicants. The networks also enhance the competences of the NCPs, including helping the less-experienced ones to acquire the know-how built up in other countries. This should contribute to increasing the quality of proposals submitted, including those from countries where success rates in Horizon 2020 were lower than average. In addition, the projects also provide important feedback on issues relating to programme planning, design and evaluation. The networks will also work on related missions and partnerships. NCP Information Days, NCP trainings, brokerage events for potential applicants, appropriate tools and instruments to support NCPs and researchers are additional activities carried out in the networks. The FP unit is a beneficiary in several NCP network projects including: Net4SocietyHE (The Cluster 2 NCP network); Seren5 (The Cluster 3 NCP network); Greenet (The Cluster 5 NCP network); Care4Bio (The Cluster 6 NCP network); the NCP_WIDERA.NET (Widening Participation and strengthening the European Research area network); MSCA.NET (Marie Skłodowska-Curie Actions project) and RICH Europe (Research infrastructures project).

5.2 Enterprise Europe Network (EEN)

EEN is the largest support network for Small and Medium-sized Enterprises (SMEs) aimed at supporting businesses to innovate and grow on an international scale. Malta Enterprise, the Malta Business Bureau, the Malta Chamber and the MCST partnered together to assist and accompany client SMEs. This support ranges from the identification of suitable partnering opportunities to focused advisory services and to participation in events. Being the consortium member specialising in research and innovation programmes, the MCST aided many SMEs with

financing opportunities for both start-up and scale-up companies at EU and national levels. In 2022, the new EEN project, CUBE MT, was launched, with initial stakeholder consultations being held, network services provided, and work done together with partners to provide adapted services to SMEs focused on digitalisation, internationalisation and sustainability. The project now aims to broaden the SME base and join forces with other stakeholders to provide better support to SMEs.

5.3 Good practices in SME innovation support (GO-SME)

The GO-SME project responds to the need to provide financial support to SMEs and start-ups for the development of their innovative ideas. The aim of GO-SME is to share the best practices of several European research funding organisations and their mutual learning in designing programmes, which would support SMEs and start-ups in an initial assessment of their innovative ideas so that they can progress to more advanced stages of innovation development.

With 15 participants, hailing from Czechia, Luxembourg, Germany, Hungary and Portugal, among others, the added value of the project rests in its ambition to design national and regional programmes supporting innovative SMEs, which could act as a pipeline for the EIC Accelerator and be part of the 'plug-in mechanism'. At the same time, it can serve as a pilot project for a possible partnership co-funded from innovation ecosystems in the Horizon Europe programme.

In 2022, the consortium carried out an International Evaluation Panel, in which a Maltese AI SME got access to a mock EIC evaluation and to coaching services in preparation for a Stage 2 EIC proposal. The process allowed SMEs to access additional services to be better prepared, as well as serving as a learning and feedback experience for participating NCPs. This shed some light on the challenges faced by Widening Countries' SMEs, feedback which was shared with the EIC Secretariat.

5.4 Establishing of Cancer Mission Hubs: Networks and Synergies (ECHOs)

The ECHOs project is a new European consortium supported by the EU Mission on Cancer, which will play a vital role in supporting the ambitious goals of the Mission. Gathering the experience and expertise of 58 leading organisations from government, health, research and innovation, academia and non-profit sectors, the consortium will support Member States and associated countries to gradually create National Cancer Mission Hubs (NCMHs). These NCMHs will be essential in involving all relevant stakeholders to engage them in collaborative initiatives and policy dialogues on cancer at national and regional levels. MCST is the Work Package leader on Synergies, which will foresee the connection of the NCMH to other initiatives and projects, reaching out to initiatives beyond Cancer and participating in

high-level policy dialogues to make sure that NCMH are recognised at the policy level. The Ministry for Health is also a beneficiary of this project.

5.5 EURAXESS

The FP Unit is also in charge of the EURAXESS Malta portal: www.euraxess.org.mt

EURAXESS is a unique pan-European initiative delivering information and support services to professional researchers. Backed by the EU, Member States and associated countries, it supports researcher mobility and career development, while enhancing scientific collaboration between Europe and the world.

During 2022, the portal was revamped and continuously updated with new content, including news, job offers, funding opportunities, events, hosting offers and more.



6. Esplora Interactive Science Centre

Esplora is a unique visitor attraction in the Maltese Islands, offering an experience that makes Science, Technology, Engineering and Mathematics (STEM) more tangible and relevant for visitors of all ages. Emphasising interactive engagement, visitors are stimulated to actively explore, think, imagine, appreciate and create, as they participate in the myriad of experiences offered by the Science Centre.

Esplora houses over 200 exhibits, all designed to encourage visitors to explore scientific concepts by designing and conducting their

own investigations, with staff members motivating and inspiring visitors during their exploration of the centre's exhibition galleries. Moreover, Esplora also develops an annual programme of activities and events targeting visitors of all ages, especially school students and families with primary-aged school children. Esplora's experiences were impacted by the COVID-19 pandemic, resulting in a shift towards prioritising shows over workshops. Despite restrictions, in 2022, Esplora engaged visitors through 1,345 science shows, 303 hands-on workshops and 916 planetarium shows/films.



6.1 STEM Education and Engagement

6.1.1 Education Programme

Notwithstanding the COVID-19 restrictions in the initial half of 2022, which constrained the type of activities and experiences that could be offered, Esplora successfully engaged over 12,000 students across Malta and Gozo through a comprehensive array of physical and online programmes. Moreover, by virtue of an agreement with the Ministry for Education, Sport, Youth, Research and Innovation (MEYR), State schools continued to benefit from free transport to visit the science centre.

Educator Pre- and Post-Visit Resources

Esplora's educational experiences are designed to be used as an extension of the classroom. Using pre- and post-visit interdisciplinary activities, educator packs were developed to link Esplora's programmes and exhibition galleries to school syllabi and learning outcomes. Resource packs for Year 1-2 and Year 5-6 students were developed in 2022 to supplement the existing resources which were developed in 2021 for the remaining age groups.

Workshops and Science Shows

Every year Esplora develops new workshops and science shows guided by the organisation's vision, by implementing feedback collected from educators. New scientific, technological, engineering and mathematical (STEM) outputs included a chemistry show for primary students, aimed at instilling curiosity and encouraging the students to pursue the subject in the future. A hands-on workshop entitled Lunar Mission 1.0 was also developed to integrate robotics, coding and mathematics, using a thematic approach to explore the Artemis Programme. Additionally, a secondary school workshop addressing overfishing, aquaculture and eutrophication was developed, alongside an escape-room-style workshop designed to raise awareness on cyber security and online safety.

Career Orientation Visits through National School Support Services

During the first months of the year 2022, educational outing restrictions were still being imposed on local schools, so we entered into discussions with the National School Support Services (NSSS) who helped us promote the Career Orientation Visits initiative as an online activity. At these sessions, we delivered the 'Catch Them Young' workshop, which focuses on various STEM careers. Students were also involved in discussions related to 21st-century skills, otherwise known as soft skills, and how these are crucial to any career path, and fundamental to our day-to-day life. Following this workshop, students were provided with an opportunity to ask questions and find out more about the work done at Esplora and the various job opportunities available. These sessions, which took place between April and May 2022, were free of charge and were offered to Year 9, secondary school students. Altogether there were 17 online sessions and we reached out to a total of 182 students. Positive feedback was received.

6.1.2 Public Programme

Another facet of Esplora's programming encompasses the engagement of visitors who fall in the general public category namely, families, seniors and adult citizens.

Esplora's educational experiences can contribute to the development of science capital, a concept encompassing individuals' science-related knowledge, attitudes, experiences, and resources accumulated throughout their life. Moreover, the impact of families on children's perspectives of STEM has been extensively researched and documented. By involving guardians and family members in the scientific process, using family workshops and experiences, Esplora aims to enhance science capital, thereby increasing the likelihood that children will continue pursuing STEM later in life.

To further support this initiative, Esplora introduced its first toddler-output, targeting families with children aged 2-3 years old. Embracing the principle of capturing their interest from a young age, early STEM experiences can leverage children's innate curiosity and offer them opportunities to actively participate in their own learning. This first toddler workshop marked the beginning of a series of workshops aimed at developing a programme designed for inquisitive minds, empowering toddlers to explore their surroundings through observation, prediction and experimentation.

Similarly, STEM events serve as a valuable means to captivate and motivate visitors, to ignite their curiosity and to cultivate a passion for STEM. Moreover, these events provide the science centre with a platform where scientific concepts are communicated in an accessible and engaging manner, while establishing connections between the community and STEM professionals.

Carnival at Esplora - Tinkering and Making - February 2022

The event emphasised the combination of art, science, technology and engineering to foster the creation of remarkable inventions and enjoyable experiments. Children were encouraged to ignite their imagination through the exploration of tools and materials, playful inventions, collaborations and tinkering activities.

Unlocking AI - Can you Crack the Code? Science Café for youths - March 2022

As part of the EY-STEAM Erasmus+ project, Esplora organised three Science Café sessions for youths entitled 'Unlocking AI - Can you crack the code?'. This exercise was aimed to address myths and misconceptions surrounding Artificial Intelligence. These sessions featured an activity in the form of an escape-room-inspired codebreaker workshop. Following the workshop, participants engaged in a discussion with local professionals from the field, to further enhance their knowledge in this sector.

Once Upon A Story: Reading session for Children - April 2022

Esplora and Villa Bighi joined forces to organise a children's reading session for kids aged between 6-9 years old called, 'Once Upon a Story'. Kids soaked up a nature-themed tale in the peaceful Villa Bighi gardens. Afterwards, they explored the Esplora gardens, learning about different types of plants.

KurzitàJiem - April 2022

The event was a celebration of local research, emphasising its significance and impact on society and our daily lives. KurzitàJiem brought together STEM researchers from approximately 22 research groups/individuals across Malta and Gozo, showcasing the breadth and depth of research conducted across our islands.

Fireworks Festival- Evening Opening Hours - April 2022

Esplora was the perfect location to enjoy the spectacular and colourful Grand Finale Fireworks display of the Malta International Fireworks Festival. Esplora extended its opening hours into late evening on Saturday 30th April so that visitors could enjoy the fireworks, infused with a touch of scientific wonder.

Esplora AfterHours- Adult Evening event - July 2022

For those adults intrigued by the essence of Esplora but who never had the opportunity to visit, Esplora organised an exclusive adults-only event; Esplora AfterHours. The sold-out event granted visitors exclusive access to the exhibition galleries, a variety of science shows as well as food and entertainment to provide a memorable science-themed night exclusively tailored for adults.

La Notte Di San Lorenzo - Evening Opening Hours - August 2022

Esplora provided the ideal setting to witness the breathtaking fireworks extravaganza of La Notte di San Lorenzo. On Tuesday 9th August, Esplora extended its hours of operation into the evening and during this time, visitors had the chance to explore the science centre at night, while also attending captivating science and planetarium shows.

MaltaPi Back-to-school Hackathon - September 2022

MaltaPi is a community hackaton modelled on the RaspberryJam formula pioneered by the RaspberryPi Foundation in the UK. The weekend event activities were led by an external expert from Headstart Technology and visitors were invited to experiment with microcontrollers, robots and platforms to create a wide range of projects. The MaltaPi event was supported by e-Skills Malta Foundation and the European Commission Representation in Malta.

Educators' Night - Education Programme 2022/2023 Launch - September 2022

Every year in September, Esplora hosts a prestigious evening event, tailor-made for educators, so that they can receive a firsthand glimpse into Esplora's Educational Programme for the upcoming scholastic year. Educators are invited to engage with over 200 exhibits, and to discover the potential of the science centre to help fuel their students' curiosity and to entice the educators to incorporate educational visits to Esplora within the curriculum. This occasion is also a great opportunity for educators to meet Esplora's staff, and to share ideas and receive valuable feedback to enhance our programmes and experiences year after year.

Halloween- Forensic Science Investigation - October - November 2022

The fascination for forensic science surged in recent years, fuelled by popular TV shows. In 2022, Esplora hosted a themed Halloween event centred around forensic science, immersing visitors in the world of crime-scene investigation, with families engaging in various CSI activities, while also having the opportunity to connect with professionals who work in the forensic fields.

World Children's Day - - November 2022

In collaboration with the Ministry for Education, Sport, Youth, Research and Innovation, Esplora celebrated World Children's Day and dedicated an entire weekend to engaging science shows and interactions with local scientists. Visitors had the opportunity to connect with experts from various scientific fields, while also enjoying an offer of one free child entrance ticket with every paying adult.

Christmas at Esplora - December 2022 - January 2023

In 2022, Esplora explored the wonders of Christmas through science and technology. 'Once Upon a Christmas' took visitors on an interactive storytelling workshop to discover how families in Malta and Gozo celebrate the festive season. The 'Lights, Camera, Action!' science show engaged participants in recreating elements of Christmas movies, including the use of Green Screen Technology and Foley sound effects. In the 'Santa's Sleigh Workshop', attendees built sphero-powered sleigh prototypes to assist Santa in delivering presents across Malta and Gozo, a workshop which was supported by our long term collaborators: robocoach and digital.com.mt.

6.1.3 Esploronauts

The Esploronauts Kids Club, targeting children between the ages of 5 and 10, was launched on Teacher's Night in September 2022. Esploronauts was promoted on the Esplora website and its social media channels. This initiative was very well received by the public, and almost 300 draft online registrations were submitted in months. The first issue of the X-PLORE Magazine was handed out in a goodie bag, which also included an Esploronauts-logo Tee-shirt and a membership card. Draft Online MCST Annual Report & Financial Statements 2022 43 was free of charge until draft stage and out of 300 applications, 116 applicants presented themselves personally at Esplora to pay for the membership and claim their goodie bag.

In the last months of 2022, work related to data input on the Octavo system was completed, and consequently members were able to gain access to online STEM-related books. Every

member received a birthday card and an Esplora entrance voucher as a birthday gift. In preparation for the second and subsequent magazines, research was carried out on other similar magazines for inspiration and ideas on layout and content.

6.1.4 Outreach

STEM Career Stories

In January 2022, Esplora organised 20 virtual sessions for Years 4 - 6 students with a focus on STEM Careers. Besides providing the students with a taste of the vast number of STEM careers, using storytelling as a medium, Esplora saw this as a wonderful opportunity to shine a spotlight on local STEM professionals, with whom the students could interact. The STEM subject fields covered included wildlife conservation, aviation systems and statistics, among many others.

Ġina u l-Esploraturi

'Ġina u l-Esploraturi' is a TV production, developed in collaboration with TVM. Season 2 consisted of 16 educational episodes, with filming wrapping up in June 2022. During this season, Ġina u l-Esploraturi answered questions put forward by primary school students on various topics including - How do we measure rainfall? What does an engineer do? How are art and science linked? How does our amazing body work? Children watching the TV programme were invited to explore how science works through storytelling, scientific demonstrations, at-home activities and interviews with people who work in the industry.

Esperimenta Tikka Xjenza

'Esperimenta Tikka Xjenza' was organised by the STEM Engagement Team at Esplora in conjunction with the National STEM Engagement Working Group. It was designed as a small, intimate community event to conform with COVID-19 regulations. The event was held at Couvre Port at Cottonera. Throughout the festival, which offered a number of outputs to its visitors, Esplora engaged with an audience of around 400 community members. The festival outputs included a theatrical performance on the effects of climate change and our role, storytelling sessions on the effects of plastic pollution of our oceans, an interactive

exhibition which integrated STEM with tinkering through the use of wooden games, a human library to better understand how shifts in the environment and climate have impacted the lives and job situation of individuals around the Maltese islands, and other hands-on activities organised by individuals and organisations, including voluntary organisations.

Science in the City - European Researchers' Night

As part of the EU-wide event 'European Researchers' Night', Science in the City aimed to advance the idea of 'Taking Root' in its 2022 festival. This concept encouraged citizens to leverage research-based knowledge to recognise and address political, social, environmental and technical challenges, enabling them to influence policies and decisions that affect their lives. Esplora actively engaged in the festival by presenting an interactive science show on water, designed to educate families about its significance, the water scarcity challenges Malta faces, and the importance of conserving this precious resource.

International Science Festivals

Apart from participating and organising outreach events to meet with local community members in Malta and Gozo, Esplora was also invited to participate in Znanstival, a science festival which is organised annually in Ljubljana, Slovenia.

6.1.5 National STEM Community Fund 2021

The National STEM Community Fund, an initiative led by the STEM Engagement Working Group and chaired by Esplora Interactive Science Centre on behalf of the Malta Council for Science and Technology (MCST), facilitates collaboration between researchers and communities to develop community-based STEM projects. In 2022, four projects received financial support through the National STEM Community Fund. These projects addressed various STEM areas, such as the use of genetics to build bridges between individuals of different nationalities, tracking the movement of the Mediterranean Chameleon and the Vagrant Hedgehog to aid nature planning and afforestation projects, raising awareness about reducing single-use plastic and microplastic pollution along Maltese coastal areas, and

encouraging students to develop environmental projects to tackle local pollution issues through the inquiry-based model.

6.1.6 Continuous Professional Development courses

STEM Through Storytelling CPD

Following last year's success, the Esplora Interactive Science Centre felt the need to organise a second edition of its storytelling course in September 2022, to facilitate educators' understanding of how they can use storytelling as a medium to kindle an interest in STEM subjects amongst young children. Throughout the two-day course, participants were introduced to techniques which expand their educational toolkit of STEM-related knowledge and resources.

Space Education Programme

In a continued endeavour to promote awareness of space applications, Esplora and the Malta Council for Science and Technology (MCST), with the support of the European Space Agency (ESA), provided space education opportunities for local students and educators. In 2022, notable achievements included:

Over 30 educators benefited from training organised in collaboration with the ESA Education Office. This encompassed participation in the ESA 'Teach with Space' Online Conference and a two-day training programme held at the Esplora Interactive Science Centre in November 2022. The training sessions, which were spread over two days, featured parallel workshops tailored for primary and middle/secondary school educators. The aim was to explore innovative ways of utilising space as a context for teaching STEM subjects and to experience ESA's engaging classroom activities;

Six Esplora educators availed themselves of training opportunities at ESA's e-technology lab. This programme aimed to assist educators to incorporate technology, ICT and science into their education programmes. The resources, skills and knowledge obtained through this training will be integrated in Esplora's 2023 programmes, with the intention of approaching space education from a thematic perspective.

Following a competitive selection process overseen by ESA, three tertiary education students were chosen to attend ESA Academy workshops after submitting applications. These workshops included the Ladybird Guide to Spacecraft Operations Training Course and the Concurrent Engineering Workshop. The intensive one-week training courses, sponsored by the Malta Council for Science and Technology, carried a cost of €3,000 per student.

STEM Career Guidance Training at Esplora

In October of 2022, Esplora liaised with the National School Support Services within MEYR to bring together Career Guidance Teachers within State Colleges, Jobsplus Educational Advisors and STEM professionals to discuss STEM careers and associated knowledge and skills within the field of Information and Communications Technology (ICT) and Engineering. The objective was to provide industry insights and potential role models to assist career guidance teachers and job advisors with effectively guiding students interested in choosing STEM-related subjects and careers.

Esplora was also contacted to develop bespoke training for visiting international educators using Erasmus+ mobility scheme focusing on the use of emerging technology and non-formal STEM education to enhance 21st-century skills.

6.1.7 Projects

6.1.7.1 ERASMUS+ Key Action 1: Learning Mobility of Individuals

Key Action 1 projects offer Science Museum staff members, and other participating organisations, the possibility to reskill, upskill and enhance their knowledge and competence in various science communication areas, public engagement and science centre operations:

Project Title: Continuing Professional Development in STEM Adult Education through Cross-Border Cooperation and 21st-Century Skills

During the course of this project, a total of 24 training opportunities were financially supported for various Esplora staff members from multiple departments, with the aim of improving their science communication knowledge and their 21st-century skills within the context of a science centre. The training

took place in Denmark, Czech Republic, Italy and Spain, enhancing the science centre's excellence and expertise;

Project Title: Fostering 21st-Century Skills through STEM

Through the Erasmus+ project 'Fostering 21st-Century Skills through STEM', 13 Esplora employees visited four science centres in Europe. The project included a visit to Portugal, where a team of employees gained insights into Ciência Viva's operations, school activities and outreach events, as well as a visit to AHHA Science Centre in Estonia, where Esplora employees focused on planetarium operations and content development.

6.1.7.2 ERASMUS+ Key Action 2: Cooperation among organisations and institutions:

Project Title: Empowering Youths in STEM through the Arts

The project priority was for project partners to work *with* youths to develop activities for youths. The developed project outputs were based on conducted research comprising in a literature review, focus groups with youths, youth questionnaires on social media and face-to-face discussions with young people from the Malta Youth Agency. All three interactive resources which were developed, centred around the theme of technology, a theme which was chosen by the participants themselves during one of the training sessions, and after they expressed an interest in the future of technology, robots and artificial intelligence. As part of the dissemination of these resources, a series of youth science cafés were organised in the three partner countries, with the aim of reaching out to young people. Through these events, youths were presented with the opportunity to meet with local STEM professionals and artists, and to discuss the theme of technology;

Project Title: Wired Youth: Science Forum

In 2022, the Malta Chamber of Scientists applied for a 'Key Action 2: Small-scale partnerships in youth' project entitled Wired Youth: Science Forum and reached out to Esplora as a partner organisation. The Wired Youth project will be focusing on providing opportunities for teenagers and youths to meet politicians and researchers to develop AI-related science policies for Malta and Greece;

Reliving Bighi through Communities' Stories

In September 2021, Esplora, in collaboration

with a team comprising of an artist, a heritage consultant, a filmmaker and Esplora's resident history tour guide, managed to secure funds from Arts Council Malta for the Reliving Bighi through Communities' Stories project, which ranked first among its 47 applicants.

This research-based proposal was aimed at exploring the historical, architectural and social significance of the ex-Royal Naval Hospital (RNH) Bighi. Utilising a transdisciplinary research approach, the project team engaged with communities through a series of specific encounters with individuals which was pre-identified on the basis of their specific relation with the context, as well as through a public open call. The ultimate aim of the proposal was to collect stories from the communities and documenting the findings in a report with video clips.

The project timeline spans from May 2022 to June 2023, with a total estimated budget of €41,000, partially funded by Arts Council Malta and APS Bank, and supported with €10,000 from Esplora/MCST as a project partner. This research serves as groundwork for future creative productions related to the Bighi Royal Naval Hospital.

6.1.8 Esplora Planetarium

The planetarium's efforts for 2022 revolved around building up on the work done in previous years while also trialling new avenues for visitor engagement. The library of offerings at the planetarium was strengthened greatly, especially thanks to the availability of content and films under a creative common licence. Films such as From Earth to the Universe by the ESO as well as the One Sky Project were added to bolster content about astronomy. The licence for Dinosaurs: a story of survival was purchased and thus it was added to the

library of films. This last film made it possible to engage wider-ranging audiences as the film targets a younger audience and tackles a topic which the planetarium did not previously offer any content about. These additions all followed an internal review process to ensure that the best selection was made.

Efforts were also made to improve the educational engagement of our visitors through science busking activities offered in between films. These activities were also adapted to fit the space theme at the planetarium. Some activities were also tied to particular films being given prominence during thematic periods as well as events. New content was developed to cover different thematic topics, such as the crime scene investigation theme for the Halloween period.

2022 also saw an increased collaboration with stakeholders, such as local artists and the Astronomical Society of Malta, to further expand the planetarium offerings to evening events tied to stargazing and dissemination of knowledge about astronomy. These were carried out with the aim of offering more specialised material, which is more likely to attract participants with an interest in astronomy.

Also notable was the introduction of live shows offered to participants of events hosted at the planetarium. This type of audience is typically exclusively adult having specialised interests. This means that the planetarium can also reach a previously untapped demographic. While not strictly a live show, the software used was repurposed to display content on the dome screen for events where the planetarium was rented out as a private venue.

Regular specialised maintenance and upkeep was carried out on the hardware to maintain the highest standards of presentation, as necessary.

6.2 Operations

6.2.1 Footfall

Yearly Footfall Reporting - 2022														Total
January	February	March	April	May	June	July	August	September	October	November	December			
Saturday 1st - Monday 31st	Tuesday 1st - Monday 28th	Tuesday 1st - Thursday 31st	Friday 1st - Saturday 30th	Sunday 1st - Tuesday 31st	Wednesday 1st - Thursday 30th	Friday 1st - Sunday 31st	Monday 1st - Wednesday	Thursday 1st - Friday 30th	Saturday 1st - Monday 31st	Tuesday 1st - Wednesday 30th	Thursday 1st - Saturday 31st			
Number of Shows Delivered:														
Science Shows	103	123	135	157	102	79	111	93	118	103	111			
Workshops	2	10	13	8	37	12	16	61	14	21	63			
Planetarium Film Shows	61	43	78	61	78	71	64	64	57	85	76			
Actual number of visitors who entered for Shows (monthly):														
Science Shows	1,249	1,890	2,529	2,685	1,323	1,053	2,187	3,296	2,596	3,347	2,821			
Workshops	33	304	244	150	534	156	217	1,536	123	314	1,279			
Planetarium Film Shows	766	1,273	1,316	1,716	1,454	1,470	1,454	1,726	1,620	2,020	1,875			
Tourists*	564	411	542	1,199	478	534	899	958	512	566	404			
Monthly Footfall (Total number of visitors - online sessions)														
Students (State & Non State Schools)	487	1,371	1,164	891	1,230	762	555	1,438	312	728	2,126			
Language Schools	N/A	N/A	N/A	232	N/A	81	665	275	N/A	110	N/A			
Online Sessions	815	N/A	N/A	168	220	N/A	N/A	N/A	N/A	N/A	N/A			
Adults (16+)	1,084	1,272	1,617	2,503	1,420	1,473	2,079	2,858	2,710	2,567	2,387			
Children (0-15 years)	616	1,040	1,563	2,261	1,358	1,316	2,076	2,038	2,664	1,687	2,177			
Seniors	98	118	106	109	85	128	120	221	244	154	169			
Disability Card Holders	20	29	31	46	21	32	22	58	37	42	26			
Individuals	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Complimentary	133	387	558	672	575	1,033	507	899	581	349	577			
Others	112	583	454	1,166	946	427	1,570	1,043	1,560	1,420	1,505			
Total footfall per month:	3,665	4,699	5,493	7,998	5,659	5,259	7,992	9,731	8,154	7,207	8,967	6,997	Total	
													\$1,551	

Table 1 - Footfall report, month-by-month, for 2022

6.2.2 Esplorashop

2021 vs 2022

	Total Amount 2021	Total Amount 2022	Variance	Comments
January	€ 4,600.56	€ 2,990.28	€ 1,610.28	Negative Variance
February	€ 3,705.63	€ 5,409.68	€ 1,704.05	Positive Variance
March	€ 606.18	€ 6,007.69	€ 5,401.51	Positive Variance
April	€ 1,682.87	€ 8,764.56	€ 7,081.69	Positive Variance
May	€ 2,719.12	€ 5,346.83	€ 2,627.71	Positive Variance
June	€ 2,683.42	€ 7,503.26	€ 4,819.84	Positive Variance
July	€ 3,642.46	€ 10,103.02	€ 6,460.56	Positive Variance
August	€ 5,486.73	€ 10,489.86	€ 5,003.13	Positive Variance
September	€ 5,221.10	€ 10,233.90	€ 5,012.80	Positive Variance
October	€ 7,409.04	€ 9,284.92	€ 1,978.28	Positive Variance
November	€ 5,215.53	€ 8,129.68	€ 2,914.15	Positive Variance
December	€ 5,486.73	€ 11,080.93	€ 5,594.20	Positive Variance
Total Amount	€ 47,100.74	€ 95,344.61	€ 48,346.27	Positive Variance

Table 2 - Esplorashop - sales compared month-by-month to previous year¹

¹ Due to the Covid-19 pandemic, and its lingering effects in early 2022, the results are not uniform, but overall, in 2022, sales registered were €95,345.

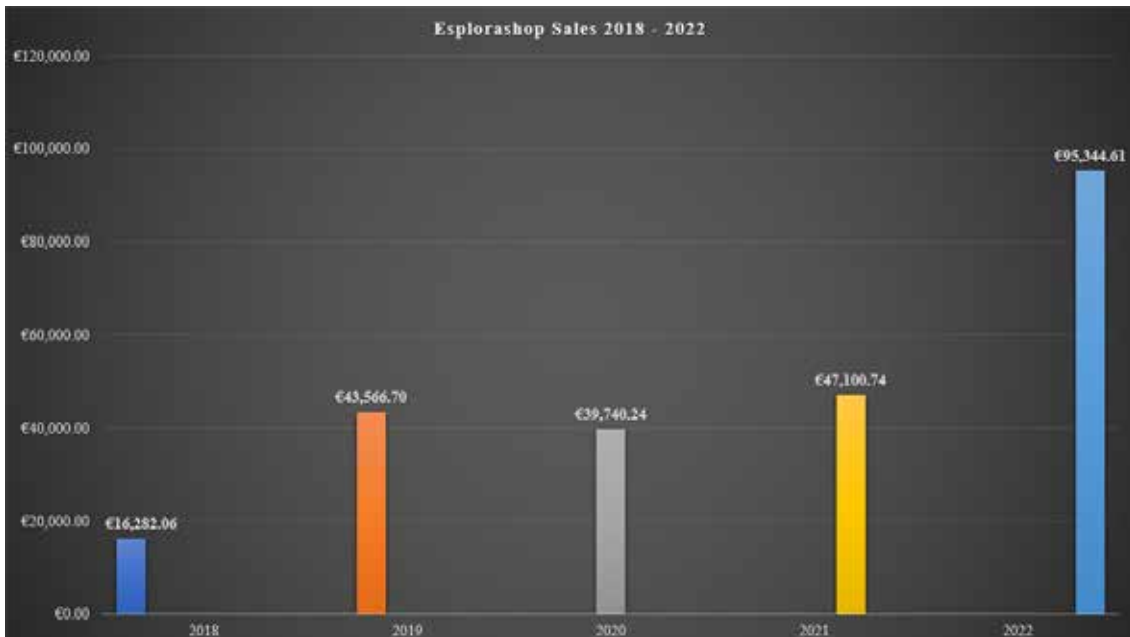


Table 3 - Esplorashop sales between 2018 and 2022

6.2.3 Audience Segmentation

Edu Kids Events and Esploronauts Events - Year 2022

Year 2022 was a challenging one as COVID restrictions were still in place to some extent in the first four to five months. Notwithstanding this, Esplora launched the new Edu Kids Events packages and had a total of 108 parties with a total attendance of 3973 persons, as well as the 'Breakfast with Santa Event' (Esploronauts Event), which had an attendance of 78 persons.

Older Adults Group Visits at Esplora

Two open days for Supervisors from Older Adults Homes and Day Centres (42 persons attended) were organised at Esplora to showcase what is on offer to older adults group bookings: the new workshop - Kamra tal-Kliem Mistur, Planetarium films and exhibits.

A total of 925 older adults visited Esplora in 2022 from Residential Homes, Day Centres, Għaqda Nanniet Malta, Parish groups etc. This number also includes the older adults who visited and took part in the Crafts Exhibition in October and the Christmas Tree Older Adults Exhibition at Esplora in December.

Disability Group Bookings

A total of 97 persons with disability from Resource Centres visited Esplora in 2022. There were a number of group cancellations because of COVID restrictions and apprehension. A group visit from Għaqda Ward u Żgħar brought 23 persons to Esplora.

Outreach Activities

Three outreach activities were held in 2022: at the Garden of Serenity in Santa Luċija (Malta), a community outreach in Żebbuġ (Malta); and another one at the Għaqda Nar u Armar 13 ta' Diċembru in Santa Luċija, Kerċem (Gozo).

In October 2022 the monthly Older Adults Outreach activities were started, and we reached the amount of 167 older adults at the Mellieħa Home and Day Centre, the Mosta Home and Day Centre, the Mtarfa Home and the Siggiewi Day Centre.

6.2.4 Inclusivity and Multisensory room

Esplora Customer Care is focused on visitor engagement and creating loyal visitors, whilst Esplora Aware is focused on disability awareness, the multiple resources that Esplora provides and the various ways teams can assist visitors with disabilities, as required. The year 2022 saw the launch of the PRISMS Malta Autism Friendly Spaces initiative where, due to ongoing efforts and collaboration, Esplora was the first organisation to be certified as an Autism Friendly Space in Malta. As part of this initiative, our visitor-facing teams went through an online training and assessment programme; trained team members can be identified as Autism Ambassadors via an Autism Friendly pin on their lanyards. Customer Care and Esplora Aware training was provided throughout the

year for all new team members as part of their on-boarding plan, as well as a refresher course for any team that required it. These trained team members can also be identified via a pin on their lanyards featuring joined rainbow hands around the Esplora 'e'.

The Multisensory Room project was heading towards completion in early 2022 and in preparation, a team of two Occupational Therapists came to Esplora in February and March to deliver both practical and theoretical training to visitor-facing team members for the use and operation of multisensory environments. These sessions were crucial in creating an understanding of the amenities which the space provides and how to facilitate sessions, based on the needs of the individual, as well as highlighting the various behaviours that may be seen in a multisensory room and how to respond in a safe manner.

The much-anticipated Multisensory Room, in collaboration with BOV, was completed and opened to the public on the 17th May 2022 at an official inauguration presided over by the Minister of Education, Sports, Youth, Research and Innovation, Hon Clifton Grima, together with the Parliamentary Secretary for Youth, Research and Innovation, Keith Azzopardi Tanti and the Executive Chairman of MCST, Dr Jeffrey Pullicino Orlando. The space has since experienced remarkable success and has been extremely beneficial to families, schools and groups, especially since access to the Multisensory Room is free of charge, a unique opportunity on the Maltese Islands. The Multisensory Room was presented to parents and caregivers at the Wardija Resource Centre in November 2022, to increase the awareness of the space and introduce our additional resources to increase bookings and to receive feedback on the challenges these families face when considering a visit to Esplora. Esplora reached a significant milestone with the launch of the Multisensory Room, despite its progress being temporarily stalled by COVID-related closures and restrictions during its initial period. In September 2022, Esplora was selected to represent Malta in Athens at a certified training programme which focused on Autism and Employability. This programme was a collaboration with PRISMS Malta.

The finalisation of the Child Protection Policy, in collaboration with Child Safety Services, was completed by the end 2022, and all visitor-facing personnel was fully trained on these policies

in time for the start of 2023. These training sessions raised the trainees' awareness as to what constitutes abuse and the various types of abuse which are commonly encountered by Child Safety Services. The training focused on what teams may see at Esplora and how to appropriately report what they witness.

When the Inclusivity Committee was restructured in August, it started putting forward plans and ideas to improve inclusivity, such as the collaboration with Rainbow Families Malta and Esplora in preparation to host the Rainbow Families event during Europride 2023. Since diversity and inclusion form an intrinsic part of MCST's and Esplora's values, the HR Department organised Gender Identity training sessions for all Esplora and MCST employees. These training sessions were delivered as from October 2022 by the Human Rights Directorate.

6.2.5 Volunteers

Esplora invites volunteers from the Malta Council for the Voluntary Sector to assist Explainers and the Front-of-House teams during thematic events, and had the following response:

Kurzità Jiem Event - 16 volunteers;
Tikka Xjenza Event - 13 volunteers;
Halloween Event - 13 volunteers.

6.3 Communications

The Communications Department is comprised of a Marketing and PR Team focused on the promotion and oversight of marketing, communications and public relations of Esplora, Villa Bighi and the Malta Council for Science and Technology Esplora brands.

6.3.1 Marketing

During 2022 Esplora's marketing department continued with its steady and consistent promotion of Esplora's mission to ignite a passion for questioning, investigation and discovery. By means of a vast array of initiatives, events and projects, Esplora thrived, and left a lasting impression in the hearts of all who stepped foot in the centre.

The Marketing Department spearheaded several marketing campaigns which skilfully highlighted the unique features that Esplora has to offer. To achieve this, the marketing team

increased the frequency of its captivating social media campaigns, engaging TikTok videos and targeted advertisement, thus raising awareness amongst its visitors who increased in number, as a direct result. These achievements came about following the implementation of a strategic communications plan, and through the use of media channels such as printed, outdoor and online advertisements, TV commercials, radio spots and featured articles.

Whilst Facebook remained the primary social media platform, Esplora's presence on Instagram, TikTok, Twitter and YouTube, increased exponentially with the creation of targeted content for each platform. In fact, Esplora's social media platforms experienced a significant audience growth throughout the year under report. Additionally, ratings and reviews on Esplora's Google Business Page and TripAdvisor page were extremely positive, with an overall 5-star rating. Social media and digital platforms were mainly used to promote upcoming events, advertise new exhibits, and to share exclusive previews into the science centre's operations, thus enabling visitors to plan their visit and explore the diverse range of experiences available at Esplora. Esplora's social media presence went beyond the role of an information broadcaster. The Marketing Department actively interacted with its audience, promptly responding to queries, addressing concerns and fostering discussions.

This two-way communication not only enriched the visitor experience but also nurtured a strong relationship between Esplora and its audience, exemplifying Esplora's commitment to establishing meaningful connections with its audience. Throughout 2022, the Marketing Department at Esplora also took proactive steps to start marketing collaborations and partnerships with other organisations, aimed at expanding the Centre's reach and influence. These alliances successfully widened the interactive science centre's network, by generating leads and increasing Esplora's popularity amongst the community.

6.3.2 Press Events

Esplora Press Events

On the 10 May, 2022, a half-day press event was held at Esplora in order to conclude the €132,915 KA2 Erasmus+ project **Empowering Youth in STEM through Arts** in collaboration with NEMO Science Centre, Cosmo Caixa Science Centre, Inizjamed and Aġenzija Żgħażaġh. Throughout this seminar, participants had the opportunity to know more about three interactive workshops developed by these three Science Centres, which were aimed at young audiences aged 16 to 24, with a common theme on Technology including aspects of Artificial Intelligence and Robotics.

The introduction of **Esperimenta Tikka Xjenza**, a Community Science Festival, signified a major project for the year. A press event giving the green light on the project was held on the 19th July 2022 at Couvre Porte in Cottonera. The Esperimenta Tikka Xjenza Festival will include various science-related shows as well as more artistic ones, bringing science and the arts together into one event. A first in a projected series of science outreach activities planned to be held in Cottonera's Three Cities and Kalkara, bringing the need for science to be more accessible to the communities, whilst at the same time, helping to break down barriers and show that with learning through play, science can be understood by everyone.

A series of **Community Percussion Play Exhibits** distributed to the local community were inaugurated on the 6 September 2022 by the Hon. Keith Azzopardi Tanti, following an expression of interest issued to Local Councils to host these exhibits within their community. The inauguration took place at King George V Recreational Grounds in Floriana. The Percussion Play Exhibits can be effortlessly played and enjoyed by people of different ages and abilities to realise how truly gratifying it is to make music together. Musical direction is not required and any combination of the Percussion Play Exhibits can be played together harmoniously.

Esplora Interactive Science Centre is proud to have been awarded the **Malta Tourism Authority Quality Assurance Seal** for Visitor Attractions 2021-2022. A presentation of the quality assurance award was held at Esplora on the 1 July 2022.

On the 27 September 2022, Esplora unveiled its **Education Programme for 2022 -2023**, an annual tradition. The Education Programme included a variety of blended learning opportunities, available both on-site at Esplora as well as online. Notably, the programme incorporated educational visits designed for students ranging from kindergarten to secondary school levels. At the conference, attendees witnessed live demonstrations from the programme. Furthermore, during the same event, the Malta Council for Science and Technology and the Ministry for Education formalised their collaboration by signing a Memorandum of Understanding (MOU) which strengthens the existing partnership and aims to expand the outreach of STEM subjects to students. The collaboration also involved organising school visits to the Esplora Science Centre, thus providing the students with an opportunity to experience a hands-on, fun engagement with the sciences.

World Children's Day was celebrated at Esplora, in collaboration with the Ministry for Education, Youth, Research and Innovation together with the Parliamentary Secretariat for Youth, Research and Innovation, from the 18 - 20 November. Young visitors had an opportunity to meet with researchers working in STEM-related industries, further supporting the culture of scientific curiosity, discovery and the passion for questioning.

TV Appearances

In Esplora's ongoing efforts to raise awareness with the general public, members from the PR team participated in a series of monthly TV live appearances on the magazine programme *Ta' Filgħodu* on TVM, where upcoming events at Esplora were communicated and people enticed to visit Esplora to **Explore, Think and Imagine**.

MCST Press Events

A number of MCST Press Events, disseminating the Council's efforts, were held at Esplora. Below are the most noteworthy press events:

On the 12 of January 2022, in order to upgrade and modernise Malta's national Research and Innovation (R&I) framework, MCST launched the new Smart Specialisation Strategy, which is aligned with the government's commitment to maintain a robust research and innovation eco-

system which benefits the national economic development, as well as local researchers and stakeholders. The Strategy is also intended to facilitate access to R&I EU-funding in the selected economic sectors. More information about this Strategy can be found under the MCST section of this report;

On the 13 September, MCST together with the Ministry for the Environment and the Parliamentary Secretariat for Youth, Research and Innovation, launched the Clean Energy Transition Partnership aimed to foster transnational innovation ecosystems ranging from the very local and regional level, right up to the transnational European level, thus overcoming a fragmented European landscape. This Partnership intends to reach out to collaboration with funding partners beyond Europe, in order to broaden the knowledge and experience bases and aims to introduce European solutions and stakeholders to the global value chains. (More detailed information about this Partnership can be found in the MCST section of this report.);

On the 13 October, a press event announcing the 'Go to Market' funding Programme was held at Esplora. This fund is aimed at helping start-ups and innovators cut through red tape and finalise their products to be able to place them on the market. Operated by the Malta Council for Science and Technology, together with the Malta Development Bank, it forms part of the FUSION national funding programmes, which finance local research and innovation. (More information about this funding initiative can be found in the MCST section of this report.);

MCST, under the auspices of the Ministry for Education, Sport, Youth, Research, and Innovation (MEYR), launched its National R&I Strategic Plan to cover the period 2023 - 2027 for public consultation, during an official press event held on the 22 December 2022. The launch event served as a presentation of the draft National R&I Strategic Plan to the leading figures and representatives of the national research and innovation stakeholder community, who were thus invited to contribute with their insights to the eventual finalisation of the draft National R&I Strategic Plan.

Public Engagement Press Events:

EVENT DATE	PROJECT ACRONYM and DESCRIPTION	CONSORTIUM	FUNDS DISBURSED
25.01.2022	WILDEYE A passive eye gazing tracking platform that provides an alternative communication channel for persons with impaired motor skills.	University of Malta & Seasus Ltd	€193,943.38
07.04.2022	RIDE+SAFE a comprehensive simulator which supports the design of customised and safer motorcycles based keeping the rider at the centre of the design process.	University of Malta & WKD Works Limited	€194,374.00
03.05.2022	Re-Stone - a technology that reconstitutes limestone waste and which can be used to recycle building products with engineered physical and mechanical properties.	University of Malta & Halmann Vella Ltd	€195K
31.05.2022	ACSAGO - a new taxiing method for aircrafts using an active sidestick.	University of Malta & QuAero Ltd	€183,850
19.07.2022	BIOSA - Biodegradable Iron for Orthopaedic Scaffold Applications	University of Malta & Mater Dei Hospital	€194,960.
27.09.2022	DRIFT- Smart insoles for diabetic patient monitoring	University of Malta & Mater Dei Hospital	€194,981

6.4 Administration Office

Esplora highly values and actively supports performances as well as exhibitions which promote environmentally-conscious initiatives. Our primary objective is to consistently generate sustainability, whilst safeguarding our environment and climate.

6.4.1 Performances

In collaboration with Spazju Kreattiv and Green House, an NGO, Esplora had the privilege of hosting the Solitary Bee production as part of the ŽiguŽajg 2021/2022 season. This artistically captivating performance was enabled by the generous support of the HSBC Malta Foundation.



During the interactive storytelling session which lasted nearly an hour, Year 1 and Year 2 students were invited to embark on a captivating journey alongside a solitary bee. The event which took place on the 26 and 27 of January 2022, was an engaging and educational experience for all participants.

6.4.2 Kite Day at Esplora

Esplora was also involved in the Kite Festival which was held in June 2022, and organised by the Malta Foundation for the Wellbeing of Society, in collaboration with H.E. President Emeritus Marie-Louise Coleiro Preca and the Chinese Cultural Centre, with the support of the Ministry for Education, Sport, Youth, Research, and Innovation. The Kite Festival was held at Esplora between the 22nd and the 24th June. As part of this endeavour, assistance was provided to Year 6 students from St Margaret College, who were provided with a Kite-Kit to assemble during their school hours. Throughout the three-day festival, these students had the opportunity to visit Esplora as part of their regular school visits, flying their kites at the MCST Plaza. To facilitate their participation, they benefitted from free entrance to Esplora as part of this initiative.

The media covered the Closing Ceremony held on Wednesday, 22nd June. The event was graced by the presence of H.E. President Emeritus Marie-Louise Coleiro Preca, the Chinese

Ambassador, and the Head of the College Network, Ms Daniela Zammit. The ceremony served as a platform to commemorate the successful completion of the festival.

During the entire week, Esplora proudly showcased 20 professionally-crafted kites, expertly prepared by the Chinese Cultural Centre.



6.4.3 Exhibitions

Esplora Interactive Science Centre, in collaboration with Spazju Kreattiv, hosted the 'BioArt Alchemy' an exhibition by renowned artist Ms. Anna Dumitriu. The exhibition, held at Spazju Kreattiv from 16 September to 30 October, 2022, showcased Dumitriu's unique artwork which combines contemporary biomedical research with historical narratives of contagion and alchemy. Esplora provided €1,500 in funding to support the exhibition.

The event successfully bridged the realms of art and science, inviting viewers to explore the intersections of scientific progress and artistic expression.

The Astronomical Society of Malta (ASM) collaborated with Esplora to host an Astrophotography Exhibition in November 2022. This captivating exhibition took place at Esplora's Planetarium Building Foyer and featured a collection of mesmerising astrophotography and astronomy-related photos taken by highly skilled members of the ASM.



The Marine Wildlife Exhibition, known as 'Discovering the Big Blue', was held at the Planetarium Hall from 12 November to 2 December. Its primary goal was to showcase the extraordinary variety of the ocean ecosystem, spanning from majestic whales to minuscule organisms, all of which are integral to the underwater world surrounding Malta's coastline. This scope of this exhibition was to educate, captivate and entertain visitors of all ages, whilst incorporating contributions from various organisations to emphasise their efforts in protecting the marine environment. Additionally, it sought to raise awareness about the exquisite marine biodiversity and the challenges it encounters, due to marine litter and debris.



6.5 Quality Assurance

The Quality Assurance (QA) team works behind the scenes to support Esplora Departments and teams in maintaining and improving the level of quality that we deliver to our customers.

6.5.1 Customer Experience

The quality of the customer experience is one of the main areas of focus for the Quality Assurance team. As part of its operations, the QA team, through reviews and observations, helps to identify aspects of the Customer Pathway, including those which take place off-site, and then supports the relevant Esplora Departments and teams in improving them.

In 2022 Esplora was audited twice for Quality of Service, both times obtaining very good results.

The **Malta Tourism Authority** awards the prestigious 'Quality Assured Seal' to those Maltese establishments which meet its

standards. Esplora was the first Visitor Attraction in Malta to be re-certified for the Seal after the COVID-19 lockdowns, and the auditor report stated that Esplora's "quality level was found to be excellent".

The **Quality of Service Directorate** within the Office of the Prime Minister conducted an independent 'Mystery Shopper' exercise at Esplora, for which we scored 5-stars in all areas. Customer feedback on Esplora's activities and output in 2022 remained consistently good both for in-person surveys and for online reviews on social media platforms such as Facebook and Tripadvisor.

6.5.2 Internal Operations

The QA team also supports Esplora Departments in their internal activities, policies and procedures. The Quality Assurance Team ensures that besides reducing overall inefficiency, productivity and sustainability are increased whilst at the same time enhancing customer experience. As part of this work, in 2022 the QA team carried out an in-depth exercise, with the Front-of-House, Explainer, Science Communication, Planetarium and Marketing teams, which helped to identify and address issues, inform the training plan and improve internal processes and procedures.

The QA team worked especially closely with the Education Department throughout the year to support them in the creation and review of the many outputs, processes and procedures that they handle in relation to school outings, general public visitors and events. This includes both the educational content of outputs as well as the supporting procedures such as the bookings process and the logistics and planning for the smooth running of days with many group bookings.

6.5.3 Laboratory Safety

Most of the Education Department's shows and workshops include impressive science demonstrations which involve chemical reactions. During 2022, the QA team assisted with lab safety by procuring access to professional resources and providing guidance related to science demonstrations, as well as awareness-training and lab-safety procedures and risk assessment. The team was also trained to review chemical storage procedure.

6.6 Business Operations

In 2022, the business unit witnessed a year of significant activity, offering a much-needed break from the demanding circumstances of the COVID-19 pandemic. Despite the closure and persistent consequences faced during the initial quarter, the events organised at Villa Bighi in 2022 generated a sum total of €159,699 (excluding weddings).

Notably, this year marked the inauguration of our newly-constructed decking area in the Villa Bighi Gardens, where we held our first wedding of the season. The expansion of the garden space allowed for more comfortable and evenly-distributed gatherings to accommodate 300 or more attendees. Consequently, 2022 witnessed a record-breaking number of weddings hosted at Villa Bighi, totaling 35 and generating an impressive revenue of €160,499 during the wedding season (May-October).

To enhance the catering experience at Villa Bighi, we also conducted a successful mini makeover and revamp of our kitchen facilities. These improvements were very positively received by Esplora stakeholders, especially suppliers and caterers.

The R&I technical units' public engagement events, as well as the psychological well-being seminar organised by Active Ageing Community Care were two of the most prominent events which took place in 2022 under the Events and Conferences category. The second quarter of 2022 witnessed an €8,900 increase in revenue generated from team-building events. This upturn can be attributed in part to the sessions booked by Identity Malta, resulting in approximately 300 participants. Additionally, team-building events organised by the General Workers Union and Active Ageing contributed to this growth.

Villa Bighi also had the honour of hosting several international corporate events, including a Gala Dinner for a French delegation and a private dinner for American clients from the Napa Institute, California. However, the highlight among the events held at Villa Bighi in 2022 was undoubtedly the Jurassic World Dominion Global entertainment event.

Towards the end of the year, Villa Bighi hosted two prominent events, namely the "Mannarinu Wedding Fair" and the "October Start Up Festival". The Wedding Fair was highly beneficial in generating new leads and offered a business opportunity to invite potential wedding clients to visit the fully-set-up venue, enabling them to envision their own special day.

The October start up Festival One of the largest festivals held at Villa Bighi was the October Start-Up Festival organised by Malta Enterprise. Spanning over the 13 and 14 October, this second edition of the festival utilised all areas of Villa Bighi, transforming the venue into a vibrant hub. The festival catered for aspiring young entrepreneurs and facilitated matchmaking opportunities for more established start-ups seeking collaborations with local and international angel investors. Notably, the event attracted a diverse range of visitors from local and foreign businesses representing various sectors, including FinTech, digital gaming, VR/AR, Metaverse, medicinal cannabis, BioTech, MedTech and the blue economy.

7. Malta Council for Science and Technology Annual Report For the year ended 31 December 2022

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Annual Report and Financial Statements - 31 December 2022

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Executive Chairman's Report

The Executive Chairman presents his report and the audited financial statements of the Malta Council for Science and Technology, 'the Council' for the year ended 31 December 2022.

Principal activities

Malta Council for Science and Technology was set up by the Prime Minister on behalf of the Government of Malta as a public body. The Council's principal activity consists of the administration of science and technology in Malta.

Review of the business

The level of business and the Council's financial position are in line with expectations, and the Council expects that the present level of activity will be sustained in the foreseeable future.

Results and dividends

The statement of profit or loss and other comprehensive income is set out on page 4.

Post balance sheet events

There were no adjusting or other significant non-adjusting events between the end of the reporting year and the date of authorisation by the Council members.

Council members

The members of the Council who held office during the year ended 31 December 2022 and as at the date of this report are:

Executive Chairman:	Dr. Jeffrey Pullicino Orlando (resigned on 31 December 2022) Mr. Tonio Portuguese (appointed 1 January 2023)
Deputy Chairperson:	Mr. David Matrenza (acted as Deputy chairman up till 17 June 2022) Dr. Dianne Galea (appointed on 17 June 2022)
Chief Executive Officer	Mr. Silvio Scerri (appointed 12 February 2023)
Secretary:	Dr. Vincent Micallef
Council Members:	Prof. Ing. Saviour Zammit Ms. Abigail Mamo Ms. Marisa Xuereb Mr. Godwin Mifsud Dr. Ing. Alex Rizzo Dr. Ian Ellul Ms Carmen Walls (appointed on 17 June 2022) Mr David Matrenza Ms. Joanne Grima Ms. Nadia Pace

Executive Chairman's Report – continued

Council Members - continued: Mr. Mark Borg
 Ms. Nadia Vassallo
 Dr. Chris Vella
 Dr Joseph Borg (resigned on 17 June 2022)

Statement of Executive Chairman's responsibilities

The Council is required by the Charter Document of the Council to prepare financial statements which give a true and fair view of the state of affairs of the Council and of the profit or loss of the Council for that period.

In preparing the financial statements, the Council members are responsible for ensuring that:

- appropriate accounting policies have been consistently applied and supported by reasonable and prudent judgments and estimates;
- the financial statements have been drawn up in accordance with International Financial Reporting Standards as adopted by the European Union;
- the financial statements are prepared on a going concern basis unless it is inappropriate to presume that the Council will continue in business as a going concern.

The Council members are also responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Council and to enable them to ensure that the financial statements comply with the Charter Document of the Council. This responsibility includes designing, implementing, and maintaining such internal controls, as the Council determines the necessary procedures to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error. They are also responsible for safeguarding the assets of the Council, and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Financial reporting framework

The Council members have resolved to prepare the Council's financial statements for the year ended 31 December 2022 in accordance with International Financial Reporting Standards as adopted by the European Union.

Auditor

The auditor, Equis Assurance Limited, has intimated its willingness to continue in office and a resolution to reappoint them as auditor of the Council will be proposed at the forthcoming Annual General Meeting.

Executive Chairman's Report – continued

Registered address:

The registered office of the Council is: Malta Council for Science and Technology, "Villa Bighi", Kalkara, Malta.

By Order of the Council



Mr Silvio Scerri
Chief Executive Officer

8 January 2024

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Annual Report and Financial Statements for the year ended 31 December 2022

Statement of Profit or Loss and Other Comprehensive Income

	Notes	Year ended 31 December	
		2022 €	2021 €
Revenue	2	10,832,856	10,002,157
Direct costs		(4,642,405)	(4,378,322)
Gross profit		6,190,451	5,623,835
Administrative expenses		(7,244,252)	(7,071,788)
Operating loss	3	(1,053,801)	(1,447,953)
Investment income	5	24	13
Other income	6	1,130,859	1,276,858
Total comprehensive profit/(loss) for the financial year		77,082	(171,082)

The accounting policies and explanatory notes on pages 8 to 29 form an integral part of the financial statements.

Statement of Financial Position

	Notes	As at 31 December	
		2022 €	2021 €
ASSETS			
Non-current assets			
Intangible assets	8	905,603	959,904
Property, plant and equipment	9	16,264,071	16,501,400
Investment in subsidiary	10	1,500	1,500
		<u>17,171,174</u>	<u>17,462,804</u>
Current assets			
Trade and other receivables	11	1,162,709	885,158
Cash and cash equivalents	15	7,932,786	6,258,187
		<u>9,095,495</u>	<u>7,143,345</u>
Total assets		<u>26,266,669</u>	<u>24,606,149</u>
EQUITY AND LIABILITIES			
Reserves			
Accumulated losses	12	(709,944)	(787,026)
Liabilities			
Non-current liabilities			
Trade and other payables	13	20,960,272	21,015,871
Current liabilities			
Trade and other payables	13	6,016,341	4,377,304
Total equity and liabilities		<u>26,266,699</u>	<u>24,606,149</u>

The accounting policies and explanatory notes on pages 8 to 29 form an integral part of the financial statements.

The financial statements on pages 4 to 29 were approved and authorised for issue by the Council members on 8 January 2024 and were signed on its behalf by:



Mr Silvio Scerri
Chief Executive Officer

Statement of Changes in Equity

	Accumulated losses €	Total €
Balance at 1 January 2021	(615,944)	(615,944)
Comprehensive loss Total comprehensive loss for the financial year	(171,082)	(171,082)
Balance at 31 December 2021	(787,026)	(787,026)
Balance at 1 January 2022	(787,026)	(787,026)
Comprehensive profit Total comprehensive profit for the financial year	77,082	77,082
Balance at 31 December 2022	(709,944)	(709,944)

The accounting policies and explanatory notes on pages 8 to 29 form an integral part of the financial statements.

Notes to the Financial Statements

1 Accounting policies

The principal accounting policies adopted in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

a. Basis of preparation

These financial statements are prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union (EU).

The financial statements are prepared under the historical cost convention, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

i. Use of estimates and judgements

In preparing the financial statements, the Council is required to make judgements, estimates and assumptions that affect reported income, expenses, assets, liabilities and disclosure of contingent assets and liabilities. Use of available information and application of judgment are inherent in the formation of estimates. Actual results in the future could differ from such estimates and the differences may be material to the financial statements. These estimates are reviewed on a regular basis and, if a change is needed, it is accounted for in the year the changes become known. In the opinion of the Council, the accounting estimates, assumptions and judgements made in the course of preparing these financial statements are not difficult, subjective or complex to a degree which would warrant their description as significant in terms of the requirements of IAS 1 (revised) - 'Presentation of financial statements'.

ii. New and amended IFRS Standards that are effective for the current year

In 2022, the Council has applied a number of amendments to IFRS Accounting Standards issued by the International Accounting Standards Board (IASB) that are mandatory for the Council's accounting year beginning on 1 January 2022. The adoption of these revisions to the requirements of IFRSs as adopted by the EU did not result in changes to the Council's accounting policies impacting the financial performance and position.

1. **Accounting policies** – continued

a. **Basis of preparation** – continued

ii. **New and amended IFRS Standards that are effective for the current year** – continued

Amendments to IAS 16 <i>Property, Plant and Equipment – Proceeds before intended use</i>	The Council has adopted the amendments to IAS 16 <i>Property, Plant and Equipment</i> for the first time in the current year. The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced before that asset is available for use, i.e. proceeds while bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Consequently, an entity recognises such sales proceeds and related costs in profit or loss. The entity measures the cost of those items in accordance with IAS 2 <i>Inventories</i> .
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The amendments also clarify the meaning of ‘testing whether an asset is functioning properly’. IAS 16 now specifies this as assessing whether the technical and physical performance of the asset is such that it is capable of being used in the production or supply of goods or services, for rental to others, or for administrative purposes.

If not presented separately in the statement of profit or loss and other comprehensive income, the financial statements shall disclose the amounts of proceeds and cost included in profit or loss that relate to items produced that are not an output of the entity's ordinary activities, and which line item(s) in the statement of profit or loss and other comprehensive income include(s) such proceeds and cost.

Amendments to IAS 37 <i>Onerous Contracts – Cost of Fulfilling a Contract</i>	The Council has adopted the amendments to IAS 37 for the first time in the current year. The amendments specify that the cost of fulfilling a contract comprises the costs that relate directly to the contract. Costs that relate directly to a contract consist of both the incremental costs of fulfilling that contract (examples would be direct labour or materials) and an allocation of other costs that relate directly to fulfilling contracts (an example would be the allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract).
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Annual Improvements to IFRS Accounting Standards 2018-2020 Cycle	The Council has adopted the amendments included in the <i>Annual Improvements to IFRS Accounting Standards 2018-2020 Cycle</i> for the first time in the current year. The Annual Improvements include amendments to four standards
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IFRS 9 *Financial Instruments*

The amendment clarifies that in applying the ‘10 per cent’ test to assess whether to derecognize a financial liability, an entity includes only fees paid or received between the entity (the borrower) and the lender, including fees paid or received by either the entity or the lender on the other's behalf.

1. **Accounting policies** – continued

a. **Basis of preparation** – continued

iii. **New and revised IFRS Standards in issue but not yet effective**

At the date of authorisation of these financial statements, the Council has not applied the following new and revised IFRS Standards that have been issued but are not yet effective had not yet been adopted by the EU:

IFRS 17 (including the June 2020 amendments to IFRS 17)	<i>Insurance Contracts</i>
Amendments to IFRS 10 and IAS 28	<i>Sale or Contribution of Assets between an Investor and its Associate or Joint Venture</i>
Amendments to IAS 1	<i>Classification of Liabilities as Current and Non-current</i>
Amendments to IAS 1 and IFRS Practice Statement 2	<i>Disclosure of Accounting Policies</i>
Amendments to IAS 8	<i>Definition of Accounting Estimates</i>
Amendments to IAS 12	<i>Deferred Tax related to Assets and Liabilities arising from a Single Transaction</i>

The Council Members do not expect that the adoption of the Standards listed above will have a material impact on the financial statements of the Council in future years.

b. **Revenue recognition**

Revenue is measured at the fair value of the consideration received or receivable for services provided in the normal course of business, net of value-added tax and discounts, where applicable.

To determine whether to recognise revenue, the Council follows a 5-step process:

- i. Identifying the contract with a customer
- ii. Identifying the performance obligations
- iii. Determining the transaction price
- iv. Allocating the transaction price to the performance obligations
- v. Recognising revenue when/as performance obligations are satisfied.

The Council recognises revenue from the following major sources:

- i. Government grants and subventions
- ii. Rental income
- iii. Sponsorships

1. Accounting policies – continued

c. Foreign currencies

Functional and presentation currency

Items included in the Council's financial statements are measured using the currency of the primary economic environment in which the entity operates. The Euro is the Council's functional and presentation currency.

Transactions and balances

Foreign currency transactions are translated into the functional currency (Euro) using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the statement of profit or loss and other comprehensive income.

d. Intangible assets

Intangible assets comprise of internally generated research and development costs.

An internally-generated intangible asset, arising from the Council's development of Esplora Interactive Science Centre, is recognised only if all of the following can be demonstrated by the Council:

- The technical feasibility, the availability of resources and the intention and ability of completing the asset so that it will be available for use or sale;
- How the asset will generate probable future economic benefits; and
- The ability to measure reliably the expenditure attributable to the asset during its development.

Internally generated intangible assets are initially measured at cost, being the sum of the expenditure incurred from the date when the recognition criteria are met.

After initial recognition, internally generated intangible assets are carried at cost less any accumulated amortisation and impairment losses. When the intangible asset becomes available for use, it is amortised on a straight-line basis over its estimated useful life which is assumed to be 10 years.

Where an indication of impairment exists, in that the carrying amount of an intangible asset is greater than its estimated recoverable amount, a charge is made to write down the value of the asset to its estimated recoverable amount.

1 Accounting policies – continued

e. Property, plant and equipment

Property, plant and equipment, comprising Improvements to buildings, National Interactive Science Centre, office equipment, Soft furnishings, Technical equipment, furniture, fixture and fittings, motor vehicles, computer hardware and software, are initially recorded at cost and are subsequently stated at cost less depreciation. Historical cost includes expenditure that is directly attributable to the acquisition of items.

Subsequent costs are included in the asset's carrying amount, or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Council, and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the statement of profit or loss and other comprehensive income during the financial year in which they are incurred.

Depreciation is calculated on the straight-line method to allocate the cost of the assets to their residual values over their estimated useful lives as follows:

▪ Improvements to buildings	-	10%
▪ National interactive science centre	-	2% to 33.33%
▪ Office equipment	-	10%
▪ Soft furnishings	-	10%
▪ Technical equipment	-	20%
▪ Furniture, fixtures and fittings	-	10%
▪ Motor vehicles	-	20%
▪ Computer hardware and software	-	33.33%

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting year.

Gains and losses on disposal of property, plant and equipment are determined by comparing proceeds with the carrying amount, and are taken into account in determining operating profit.

An asset's carrying amount is written down immediately to its recoverable amount if its carrying amount is greater than its estimated recoverable amount (Accounting policy (g)).

f. Investments in subsidiaries

In the Council's financial statements, investments in subsidiaries are accounted for by the cost method of accounting. The dividend income from such investments is included in the statement of profit or loss and other comprehensive income in the accounting year in which the Council's rights to receive payment of any dividend is established. The Council gathers objective evidence that an investment is impaired. On disposal of an investment, the difference between the net disposal proceeds and the carrying amount is charged or credited to the statement of profit or loss and other comprehensive income.

1 Accounting policies – continued

g. Impairment of non-financial assets

At each reporting date, the Council reviews the carrying amounts of its property, plant and equipment and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated to determine the extent of the impairment loss (if any). Where the asset does not generate cash flows that are independent from other assets, the Council estimates the recoverable amount of the cash-generating unit to which the asset belongs. When a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest Council of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Recoverable amount is the higher of fair value less costs of disposal and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised immediately in profit or loss, unless the relevant asset is carried at a revalued amount, in which case the impairment loss is treated as a revaluation decrease and to the extent that the impairment loss is greater than the related revaluation surplus, the excess impairment loss is recognised in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or cash-generating unit) in prior years. A reversal of an impairment loss is recognised immediately in profit or loss to the extent that it eliminates the impairment loss which has been recognised for the asset in prior years. Any increase in excess of this amount is treated as a revaluation increase.

Intangible assets with an indefinite useful life are tested for impairment at least annually and whenever there is an indication at the end of a reporting period that the asset may be impaired.

1 Accounting policies – continued

h. Financial assets

Financial assets and financial liabilities are recognised in the Council's statement of financial position when the Council becomes a party to the contractual provisions of the instrument.

Financial assets and financial liabilities are initially measured at fair value, except for trade receivables that do not have a significant financing component which are measured at transaction price. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognised immediately in profit or loss.

i) Financial assets

(a) Initial recognition and measurement

Financial assets are classified, at initial recognition either at amortised cost, fair value through other comprehensive income ("OCI") or fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Council's business model for managing them. With the exception of trade receivables that do not contain a significant financing component, or for which the Council has applied the practical expedient, the Council initially measures a financial asset at its fair value.

Trade and other receivables and contract assets that do not contain a significant financing component or for which the Council has applied the practical expedient are measured at the transaction price determined under IFRS 15.

In order for a financial asset to be classified and measured at amortised cost or fair value through OCI, it needs to give rise to cash flows that are 'solely payments of principal and interest (SPPI)' on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

The Council's business model for managing financial assets refer to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both.

1 Accounting policies – continued

h. Financial assets – continued

i) Financial assets – continued

(b) Subsequent measurement

For purposes of subsequent measurement, financial assets are classified in four categories:

- a) Financial assets at amortised cost;
- b) Financial assets at fair value through OCI with recycling of cumulative gains and losses (debt instruments);
- c) Financial assets designated at fair value through OCI with no recycling of cumulative gains and losses upon derecognition (equity instruments);
- d) Financial assets at fair value through profit or loss

The Council does not hold any financial assets at fair value through OCI, financial assets designated at fair value through OCI and financial assets at fair value through profit or loss.

Financial assets at amortised cost

The Council measures financial assets at amortised cost if both of the following conditions are met:

- a) The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows; and
- b) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortised cost are subsequently measured using the effective interest rate ("EIR") method and are subject to impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

The Council's financial assets at amortised cost are trade and other receivables and contract assets which are expected to be received within 1 year from year end.

(c) Derecognition

A financial asset is primarily derecognised when:

- a) The rights to receive cash flows from the asset have expired; or
- b) The Council has transferred its rights to receive cash flows from the asset, or has assumed an obligation to pay the received cash flows in full without material delay to a third party and either the Council has transferred substantially all the risks and rewards of the asset or the Council has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

1 Accounting policies – continued

h. Financial assets – continued

i) Financial assets – continued

(d) Impairment

The Council recognises an allowance for expected credit losses (“ECLs”) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Council expects to receive, discounted at an approximate of the original effective interest rate. The expected cash flows will include cash flows from the sale of a collateral held or other credit enhancements that are integral to the contractual terms.

For trade and other receivables and contract assets, the Council applies a simplified approach in calculating ECLs. Therefore, the Council does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Council has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to debtors and the economic environment.

The Council considers a financial asset in default when contractual payments are ninety (90) days past due. However, in certain cases, the Council may also consider a financial asset to be in default when internal or external information indicates that the Council is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Council. A financial asset is written-off when there is no reasonable expectation of recovering the contractual cash flows.

ii) Financial liabilities and equity

a) Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

b) Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Council are recognised at the proceeds received, net of direct issue costs.

Repurchase of the Council’s own equity instruments is recognised and deducted directly in equity. No gain or loss is recognised in profit or loss on the purchase, sale, issue or cancellation of the Council’s own equity instruments.

1. **Accounting policies** – continued

h. **Financial instruments** – continued

ii) **Financial liabilities and equity** – continued

c) *Financial liabilities*

All financial liabilities are measured subsequently at amortised cost using the effective interest method or at FVTPL.

However, financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies, and financial guarantee contracts issued by the Council, are measured in accordance with the specific accounting policies set out below.

Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL when the financial liability is (i) contingent consideration of an acquirer in a business combination, (ii) held for trading or (iii) it is designated as at FVTPL.

A financial liability is classified as held for trading if either:

- It has been acquired principally for the purpose of repurchasing it in the near term.
- On initial recognition it is part of a portfolio of identified financial instruments that the Council manages together and has a recent actual pattern of short-term profit-taking.
- It is a derivative, except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument.

A financial liability other than a financial liability held for trading or contingent consideration of an acquirer in a business combination may be designated as at FVTPL upon initial recognition if either:

- Such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise
- The financial liability forms part of a Council of financial assets or financial liabilities or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Council's documented risk management or investment strategy, and information about the grouping is provided internally on that basis
- It forms part of a contract containing one or more embedded derivatives, and IFRS 9 permits the entire combined contract to be designated as at FVTPL

Financial liabilities at FVTPL are measured at fair value, with any gains or losses arising on changes in fair value recognised in profit or loss to the extent that they are not part of a designated hedging relationship. The net gain or loss recognised in profit or loss incorporates any interest paid on the financial liability and is included in the 'Other gains and losses' line item in profit or loss.

1. Accounting policies – continued

h. Financial instruments – continued

ii) Financial liabilities and equity – continued

c) Financial liabilities – continued

However, for financial liabilities that are designated as at FVTPL, the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability is recognised in other comprehensive income, unless the recognition of the effects of changes in the liability's credit risk in other comprehensive income would create or enlarge an accounting mismatch in profit or loss. The remaining amount of change in the fair value of liability is recognised in profit or loss. Changes in fair value attributable to a financial liability's credit risk that are recognised in other comprehensive income are not subsequently reclassified to profit or loss; instead, they are transferred to retained earnings upon derecognition of the financial liability. Gains or losses on financial guarantee contracts issued by the Council that are designated by the Council as at FVTPL are recognised in profit or loss.

i. Cash and cash equivalents

Cash and cash equivalents are carried in the statement of financial position at face value. For the purposes of the statement of cash flows, cash and cash equivalents comprise cash in hand and deposits held at calls with banks.

j. Employee benefits

The Council contribute towards the state pension in accordance with local legislation. The only obligation is to make the required contributions. Costs are expensed in the year in which they are incurred.

k. Related parties

Parties are considered to be related if one party has the ability, directly or indirectly, to control the other party or exercise significant influence over the other party in making financial and operating decisions. Parties are also considered to be related if they are subject to common control or common significant influence. Related parties may be individuals or corporate entities. Related party accounts are carried at cost, net of any impairment charge.

2 Revenue

Revenue is analysed as follows:

	2022	2021
	€	€
Project income	4,642,484	4,378,322
Government subventions	5,750,000	5,300,000
Esplora Interactive Science Centre income	440,372	323,835
	10,832,856	10,002,157

3 Operating loss

Operating loss for the year has been arrived after charging:

	2022 €	2021 €
Depreciation of property, plant and equipment (Note 9)	726,514	1,228,026
Amortisation of intangible assets (Note 8)	77,562	4,786
Staff costs (Note 4)	4,719,883	4,356,774
Auditor's remuneration	5,250	5,000
Direct costs	4,642,405	4,378,322
Other expenses	1,715,043	1,477,202
Total direct costs and administrative expenses	11,886,657	11,450,110

Auditor's fees

Fees charged by the auditor for the services rendered during the financial years ended 31 December 2022 and 2021 relate to the following:

	2022 €	2021 €
Annual statutory audit	5,250	5,000

4 Staff costs

	2022 €	2021 €
Wages and salaries	4,402,643	4,063,602
Social security costs	317,240	293,172
	4,719,883	4,356,774

Average number of full-time equivalents employed by the Council during the year were as follows:

	2022 No.	2021 No.
Management and administration	166	153

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5 Investment income

Investment income is analysed as follows:

	2022 €	2021 €
Interest receivable on bank balances	<u>24</u>	<u>13</u>

6 Other income

	2022 €	2021 €
Government grants	533,796	1,066,251
Other income	117,277	35,661
Agency income	264,169	92,946
Management fees	215,617	82,000
	<u>1,130,859</u>	<u>1,276,858</u>

7 Income tax

No provision for Malta income tax has been made in these financial statements as the Council is exempt from Malta income tax.

8 Intangible assets

	Pre-trading Esplora Natura €	Pre-trading Esplora Expenses €	Total €
At 1 January 2021			
Cost	410,713	775,617	1,186,330
Accumulated amortisation	(41,071)	(354,879)	(395,950)
Net book amount	369,642	420,738	790,380
Movement for the year ended 31 December 2021			
Opening net book amount	369,642	420,738	790,380
Additions	174,310	-	174,310
Amortisation charge	41,071	(45,857)	(4,786)
Closing net book amount	585,023	374,881	959,904
At 31 December 2021			
Cost	585,023	775,617	1,360,640
Accumulated amortisation	-	(400,736)	(400,736)
Net book amount	585,023	374,881	959,904
Movement for the year ended 31 December 2022			
Opening net book amount	585,023	374,881	959,904
Additions	22,911	350	23,261
Amortisation charge	-	(77,562)	(77,562)
Closing net book amount	607,934	297,669	905,603
At 31 December 2022			
Cost	607,934	775,967	1,383,901
Accumulated amortisation	-	(478,298)	(478,298)
Net book amount	607,934	297,669	905,603

An amortisation charge of €77,562 (2021: €4,786) is included in administrative expenses.

As at 31 December 2022, intangible assets which were not yet available for use amounted to €607,934 (2021: €585,023).

9 Property, plant and equipment	Improvement to buildings	National Interactive Science Centre	Office equipment	Soft Furnishings	Technical equipment	Furniture, fixtures and fittings	Motor vehicles	Computer hardware and Software	Total
At 1 January 2021									
Cost	504,650	21,033,062	54,082	40,802	87,561	376,096	8,852	712,838	22,817,943
Accumulated depreciation	(377,752)	(5,104,449)	(50,074)	(26,575)	(87,561)	(268,144)	(8,852)	(611,997)	(6,495,404)
Net book amount	166,898	15,928,613	4,008	14,227	-	107,952	-	100,841	16,322,539
Movement for the year ended 31 December 2021									
Opening net book amount	166,898	15,928,613	4,008	14,227	-	107,952	-	100,841	16,322,539
Additions	339,451	1,013,589	262	239	-	128	-	53,218	1,406,887
Depreciation charge	(52,992)	(1,066,253)	(697)	(1,785)	-	(16,262)	-	(90,037)	(1,228,026)
Closing net book amount	453,357	15,875,949	3,573	12,681	-	91,818	-	64,022	16,501,400
At 31 December 2021									
Cost	844,101	22,046,651	54,344	41,041	87,561	376,224	8,852	766,056	24,224,830
Accumulated depreciation	(390,744)	(6,170,702)	(50,771)	(28,360)	(87,561)	(284,406)	(8,852)	(702,034)	(7,723,430)
Net book amount	453,357	15,875,949	3,573	12,681	-	91,818	-	64,022	16,501,400

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9 Property, plant and equipment - continued

	Improvement to buildings €	National Interactive Science Centre							Total €	
		€	Office equipment	Furnishings €	Soft €	Technical equipment	Furniture, fixtures and fittings	Motor vehicles		Computer hardware and software
Movement for the year ended 31 December 2022										
Opening net book amount	453,357	15,875,949	3,573	12,681	-	91,818	-	64,022	16,501,400	
Additions	132,397	163,198	154	2,115	-	8,544	-	182,777	489,185	
Depreciation charge	(68,351)	(533,106)	(663)	(2,377)	-	(18,028)	-	(103,989)	(726,514)	
Closing net book amount	517,403	15,506,041	3,064	12,419	-	82,334	-	142,810	16,264,071	
At 31 December 2022										
Cost	976,498	22,209,849	54,498	43,156	87,561	384,768	8,852	948,833	24,714,015	
Accumulated depreciation	(459,095)	(6,703,808)	(51,434)	(30,737)	(87,561)	(302,434)	(8,852)	(806,023)	(8,449,944)	
Net book amount	517,403	15,506,041	3,064	12,419	-	82,334	-	142,810	16,264,071	

Depreciation charge of €726,514 (2021: €1,228,026) is included in administrative expenses.

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10 Investment in subsidiary

	2022 €	2021 €
Movements for the year ended 31 December		
Closing net book amount	1,500	1,500
At 31 December		
Cost/Net book amount	1,500	1,500

The subsidiary, which is unlisted at 31 December is shown below:

Name	Registered office	Principal activities	Percentage of shares held	
			2022	2021
Engage Science Limited C 74831	MCST, Villa Bighi, Dawret Fra Giovanni Bichi Kalkara, Malta	The Council is engaged in operating a restaurant and a shop at Esplora.	100%	100%

11 Trade and other receivables

	2022 €	2021 €
Trade receivables (Note i)	73,310	35,010
Amount due from subsidiary (Note ii)	455,078	233,580
Prepayments	61,898	93,138
Accrued income	183,577	145,343
Indirect taxation	356,572	366,287
Other receivables	32,274	11,800
	1,162,709	885,158

Note:

- i. Trade receivables are stated net of impairment losses amounting to €332 (2021: €332). However, the net balance is inclusive of amounts that are past due at the end of the reporting year for which the Council has not recognised an allowance and the amounts are still considered recoverable.
- ii. Amount due from the subsidiary is unsecured, interest-free and repayable on demand.

12 Accumulated losses

The Council's accumulated losses represent accumulated profits and losses since the incorporation date.

13 Trade and other payables

Non-current	2022	2021
	€	€
Government grants	20,960,272	21,015,871

In accordance with the Council's accounting policies relating to grants received for the purchase of property, plant and equipment, grants are included with non-current liabilities and are credited to the Statement of Profit and Loss when the asset is available for use, on a straight-line basis over the expected useful lives of the related costs. The balance at end of year refers to grants granted by the Government of Malta to the Council for the design and construction of the Esplora Interactive Science Centre.

Current

	2022	2021
	€	€
Trade payables	1,407,846	300,206
Accruals	402,324	430,908
Bank overdrawn balance (Note 15)	720	827
Deferred income	4,191,763	3,479,504
Other payables	13,688	165,859
	6,016,341	4,377,304

14 Cash generated from operations

Reconciliation of profit/(loss) for the year to cash generated from operations:

	2022 €	2021 €
Profit/(loss) for the year	77,082	(171,082)
<u>Adjustments for:</u>		
Amortisation of intangible assets	77,562	4,786
Depreciation of property, plant and equipment	726,514	1,228,026
Investment income	(24)	(13)
	881,134	1,061,717
<u>Changes in working capital:</u>		
Trade and other receivables	(56,053)	384,318
Trade and other payables	1,639,144	1,145,258
Cash generated from operations	2,464,225	2,591,293

15 Cash and cash equivalents

For the purposes of the statement of cash flows, the cash, and cash equivalents at the end of the year comprise the following:

	2022 €	2021 €
Cash at bank and in hand	7,932,786	6,258,187
Bank overdrawn balance	(720)	(827)
	7,932,066	6,257,360

16 Related party transactions

The Malta Council for Science and Technology is a public Council funded by the Government of Malta. Transactions with the Government of Malta during the year arose as shown hereunder:

	2022 €	2021 €
Revenue	4,642,484	4,378,322
Government subventions	5,750,000	5,300,000
	10,392,484	9,678,322

16 Related party transactions - continued

The Council also entered into related party transactions on an arm's length basis with its subsidiary. Transactions with related parties are also made on an arm's length basis.

Transactions with the subsidiary during the year arose as shown hereunder:

	2022	2021
	€	€
Amounts due from subsidiary		
At beginning of year	233,580	137,380
Management fee	215,617	82,000
Other movements for the year	5,881	14,200
	455,078	233,580

Year-end balances due from subsidiary are disclosed in Note 11 to these financial statements.

17 Financial risk management

Overview

The Council has an exposure to the following risks arising from the use of financial instruments within its activities:

- Credit risk
- Liquidity risk
- Market risk

This note presents information about the Council's exposure to each of the above risks, policies and processes for measuring and managing risk, and the Council's management of capital. Further quantitative disclosures are included in these financial statements.

The responsibility for the management of risk is vested in the Council members. Accordingly, it is the Council who has the overall responsibility for establishing an appropriate risk management framework.

Credit risk

Credit risk is the risk of financial loss to the Council if a counterparty to a financial instrument fails to meet its contractual obligations and arises principally from the Council's trade and other receivables and cash and cash equivalents held at banks. The carrying amounts of financial assets represent the maximum credit exposure.

The Council assesses the credit quality of its customers by taking into account their financial standing, past experience, any payments made a post-reporting date and other factors, such as bank references and the customers' financial position.

17 Financial risk management - continued

Credit risk - continued

Management is responsible for the quality of the Council's credit portfolios and has established credit processes involving delegated approval authorities and credit procedures, the objective of which is to build and maintain assets of high quality.

The Council's policy is to deal only with creditworthy counterparties. The credit terms are generally 90 days. The Council regularly review the ageing analysis together with the credit limits per customer.

Impairment of Trade and other receivables

To measure the expected credit losses, trade and other receivables have been grouped based on shared credit risk characteristics and the days past due. Management considers the probability of default from such trade and other receivables to be not material. In view of this, the amount calculated using the 12-month expected credit loss model is considered to be very insignificant. Therefore, based on the above, no loss allowance has been recognised by Council.

Cash and cash equivalents

The cash and cash equivalents held with banks as at 31 December 2022 and 2021 are callable on demand and held with local financial institutions with high-quality standing or rating. Management considers the probability of default from such banks to be insignificant. Therefore, based on the above, no loss allowance has been recognised by the Council.

Liquidity risk

Liquidity risk is the risk that the Council will not be able to meet its financial obligations as they fall due. The Council's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due. Generally, the Council ensures that it has sufficient cash on demand to meet expected operational expenditures, including the servicing of financial obligations.

The table below analyses the Council's financial liabilities into relevant maturity grouping based on the remaining period at the end of the reporting period to the contractual maturity date. Trade and other payables are all repayable within one year.

As at 31 December 2022	Less than 1 year €	Between 1 and 2 years €	Between 2 and 5 years €	Over 5 years €	Total €	Carrying amount €
Trade and other payables	6,015,621	-	-	-	6,015,621	6,015,621
As at 31 December 2021						
Trade and other payables	4,377,304	-	-	-	4,377,304	4,377,304

17 Financial risk management – continued

Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates or interest rates, will affect the fair value or future cash flows of a financial instrument. The objective of market risk is to manage and control market risk exposures within acceptable parameters while optimising the return on risk.

The operating cash flows of the Council are influenced by changes in market interest rates. Up to the statement of financial position date, the Council did not have any hedging arrangements with respect to the exposure of floating interest rate risk. The Council is not exposed to foreign exchange risk since all operations are conducted locally in the Council's functional currency.

Capital management

It is the policy of the Council to maintain an adequate capital base in order to sustain the future development of the business and safeguard the ability of the Council to continue as a going concern. In this respect, the Council monitors the operations and results of the Council, and also monitor the level of dividends, if any, payable to the ordinary shareholders. The Council are not subject to externally imposed capital requirements. There were no changes in the Council's approach to capital management during the year.

Fair values

At 31 December 2022 and 2021, the carrying amounts of cash at the bank, receivables, payables and accrued expenses and short-term borrowings reflected in the financial statements are reasonable estimates of fair value. The fair values of grants are not materially different from their carrying amounts.

18 Post balance sheet events

There were no adjusting or significant non-adjusting events that have occurred between the end of the reporting year and at the date of authorisation by the Council members.

19 Statutory information

The Malta Council for Science and Technology acting for and on behalf of the Council for Science and Technology is established by a public deed as a Council by the Government of Malta.

Independent Auditor's Report

To the Council Members of the Malta Council for Science and Technology

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Malta Council for Science and Technology (the "Council"), set out on pages 4 to 29, which comprise the statement of financial position as at 31 December 2022, the statement of profit or loss and other comprehensive income, the statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of the Council as at 31 December 2022, and of its financial performance for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union (EU IFRSs).

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Council in accordance with the International Ethics Standards Board for Accountants Code of Ethics for Professional Accountants (IESBA Code) together with the ethical requirements that are relevant to our audit of the separate financial statements in accordance with the Accountancy Profession (Code of Ethics for Warrant Holders) Directive issued in terms of the Accountancy Profession Act (Cap. 281) in Malta, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

The Council members are responsible for the other information. The other information comprises the Executive Chairman's report. Our opinion on the financial statements does not cover this information, including the Executive Chairman's report. In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

With respect to the Executive Chairman's Report, we also consider the disclosures made in the Executive Chairman's Report include appropriate disclosures. Based on the work we have performed, in our opinion:

- the information given in the Executive Chairman's report for the financial year for which the financial statements are prepared is consistent with the financial statements.

In addition, in light of the knowledge and understanding of the Council and its environment obtained in the course of the audit, we are required to report if we have identified material misstatements in the Executive Chairman's report. We have nothing to report in this regard.

Independent Auditor's Report – continued

Responsibilities of the Council members

The Council members are responsible for the preparation of financial statements that give a true and fair view in accordance with EU IFRSs, and for such internal control as the Council members determine is necessary to enable the preparation of separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the separate financial statements, the Council members are responsible for assessing the Council's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the members either intend to liquidate the Council or to cease operations or have no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Council's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Council members.
- Conclude on the appropriateness of the Council members' use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Council's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Council to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Independent Auditor's Report – continued

Auditor's Responsibilities for the Audit of the Financial Statements – continued

We communicate with the Council members regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

Other matter – use of this report

Our report, including the opinions, has been prepared for and only for the Council members. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come to save where expressly agreed by our prior written consent.



Lorraine Muscat
Director

For and on behalf of
Equis Assurance Limited
Certified Public Accountants

NOUV
MRO Frank Galea Road
Zebbug, ZBG 9019
Malta

8 January 2024

Detailed Results

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MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Detailed Results - 31 December 2022

Project income

	2022 €	2021 €
FP programmes	122,473	74,039
RTDI programmes	2,738,023	2,742,284
Other programmes	1,781,988	1,561,999
Total project income	4,642,484	4,378,322

Project expenses

	2022 €	2021 €
FP programmes	122,473	74,039
RTDI programmes	2,738,023	2,742,284
Other programmes	1,781,909	1,561,999
Total project expenses	4,642,405	4,378,322

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Detailed Results - 31 December 2022

Administrative expenses

	2022	2021
	€	€
Advertising and promotions	247,185	259,466
Amortisation charge	77,562	4,786
Audit fees	5,250	5,000
Bank charges	23,454	25,730
Catering events and hospitality	154,844	62,643
Computer and IT expenses	85,158	107,558
Depreciation	726,514	1,228,026
Entertainment	13,396	13,173
Equipment hire	36,536	23,318
General expenses	60,474	10,566
Insurance	54,468	39,140
Legal and professional fees	180,589	82,799
Material and supplies expenses	34,899	45,657
Motor car expenses	14,188	6,503
Other contractual services	219,620	164,604
Printing, postage, and stationery	52,206	27,343
Rent	(55,000)	55,000
Repairs and maintenance	91,504	118,587
Security	110,634	101,605
Staff training	76,537	74,893
Staff uniforms	7,366	3,130
Staff welfare	31,095	33,608
Subscriptions and memberships	57,407	35,913
Telecommunications	51,742	53,216
Travelling	57,860	10,848
Wages and salaries	4,719,883	4,356,774
Water and electricity	108,881	121,902
Total administrative expenses	7,244,252	7,071,788

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Detailed Results - 31 December 2022

Other income

	2022	2021
	€	€
Grant income	533,796	1,066,251
Other income	117,277	35,661
Agency income	264,169	92,946
Management fees	215,617	82,000
	<u>1,130,859</u>	<u>1,276,858</u>

Investment Income

	2022	2021
	€	€
Interest income on cash and cash equivalents	24	13
	<u>24</u>	<u>13</u>





The Malta Council for
Science & Technology

MCST

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