



The Malta Council for
Science & Technology

2020
ANNUAL REPORT
and Financial Statements

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FOREWORD

by the Hon. Clayton Bartolo
Parliamentary Secretary for Financial Services
and Digital Economy

Through science and technology, the Maltese islands have the potential to gain knowledge and understand a world that is changing everyday. As a country we possess the capability of building a knowledge-based economy built on producing solutions through learning about today's world, earth, space and also digital technologies. Certainly, the Malta Council for Science and Technology continues to be the main motor to enact these programmes and initiatives.

During 2020, several important milestones were reached regarding the development of the 2021-2027 Smart Specialisation Strategy (RIS3). Building on the focus groups, consultations, bilateral meetings and in-depth analysis undertaken in 2019, a number of potential smart specialisation areas were identified. Further consultation with stakeholders from both public and private sector was undertaken with the aim of narrowing down the identified areas and selecting specialisation niches for R&I competitiveness in Malta. In April 2020, MCST issued a first vision document for public consultation, highlighting the potential new smart specialisation areas. Based on the feedback received a first draft of the Research & Innovation Smart Specialisation Strategy 2021-2027 was published for public consultation in October 2020 and revised further based on further feedback received. The 2021-2027 RIS3 is expected to be approved and launched in mid- 2021.

In July 2020, MCST coordinated the setting up of the National Open Science Technical Working Group. The working group members are expert representatives of key, national stakeholders in the field of Open Access, with MCST acting as Chair and Secretariat. This technical WG serves as the principal avenue for communication management, coordination and knowledge exchange for policy formulation required for the co-design of the National Open Access Policy, building on the PSF report recommendations while ensuring that actions are grounded in Malta's realities. The drafting of Malta's National Open Access Policy is expected to be completed in 2021.

Amongst other initiatives, the COVID-19 R&D Fund was set up in response to the global coronavirus pandemic. The main objective was to provide innovative and/or improved approaches with regards to current and/or future infectious



diseases prevention, control and containment of the spread. Research areas were varied and included medical products, molecular biology and data collection. The €5.3M fund was co-administered by the Malta Council for Science and Technology and Malta Enterprise. The COVID-19 R&D Fund proved to be a success with a total of 36 applicants across public and private entities. Applicants were a combination of sole applicants and consortia. The total value of funding requested exceeded €18.5M, which further highlights the interest in R&D funding.

2020 was indeed another successful year for MCST. Notwithstanding, the continuous challenges that we face, the government is committed to continue its support for the council's future projects. Once again, I would like to congratulate Dr. Jeffrey Pullicino Orlando and his team for their hard work and perseverance. Let's continue to be innovators and strive and create a society where science and technology help us to put Malta as a technological hub on the international stage.

The road is a challenging one, but together we can make it happen.



Photo: Matt Thompson.

Despite the unprecedented circumstances that characterised 2020, our work at the Malta Council for Science and Technology (MCST) was largely uninterrupted. New measures were introduced to support our public health authorities in their efforts to help control the spread of the disease, whilst facilitating our operations. Despite the challenges we were presented with, I am pleased to note that it was another successful year for the Council. Management and staff rose to the challenge through their commitment to ensure that it would be 'business as usual', throughout the ups and downs we went through as a country.

MESSAGE

from Dr. Jeffrey Pullicino Orlando
Executive Chairman

'Rising opportunities in Research and Innovation'

Undoubtedly, 2020 has made us more appreciative of the crucial role played by research and innovation (R&I). This was also evident through the government's addition of a new cabinet portfolio – the Ministry for Research, Innovation, and the Coordination of post-Covid-19 Strategy. Whilst we are greatly indebted to the Honourable Clayton Bartolo for the support he had given our entity in his capacity as Parliamentary Secretary for Financial Services and Digital Economy, we welcomed this news with enthusiasm. We are convinced that this development will allow us to further expand the opportunities available within the sector, with the support of the Honourable Minister Owen Bonnici.

Indeed, MCST is always striving to improve the research and innovation landscape in Malta. Year after year, we take great pride in observing the steady rise in the number of applicants who avail themselves of the uptake of national funds to accomplish their ambitions. Through FUSION, the nation R&I mechanism, MCST is providing considerable technical and financial support to enable collaborative and translational research activities. Up till the end of the year, we have granted €12 million in funding to enable researchers and innovators to tackle ambitious and challenging areas.

Another notable achievement was the launch of a new national fund, the 'Covid-19 R&D Fund', designed jointly with Malta Enterprise to help address the situation through innovative and improved methods. This was the largest national fund administered by the Council to date and €3.5 million in funding was granted for four projects. This was our immediate reaction to the pandemic. It was actually the first fund of its kind to be set up within the EU. But this fund was also set up with the aim of addressing potential future waves and the related relevant research which may become necessary in the long term.

Open Access should serve as another step in supporting the local research community in sharing and accessing scientific knowledge. Further to the support given by the European Commission through the Policy Support Facility, whereby a final report with recommendations was presented during an online launch event in April 2020, we are now in the process of developing

the first National Open Access Policy for Malta. Besides this, the Council made significant progress to start concluding its work on the new Smart Specialisation Strategy for 2021-2027 and held a series of public consultations in this regard. This strategy aims to identify the smart specialisation sectors that could be supported through the next programming period of cohesion policy (ERDF 2021-2027).

In line with the 'National Strategy for R&I', the MCST launched a new funding programme called the 'Research Excellence Programme'. Designed specifically to meet the need of Maltese public and private entities, the programme is intended to fund projects which are still in the early stages of research, but nonetheless still have high elements of excellence and national and international relevance. A maximum grant of €50,000 to be used within a year, will be allocated to each project.

In the context of European funding, the Horizon 2020 programme has helped numerous local-based scientists to obtain funding and collaborate with European and international scientists. Together, they can strive to find innovative methods to tackle societal challenges, help improve our lives and make European industry more sustainable and competitive. Through the support that the MCST has provided, Malta benefitted greatly from this funding instrument - securing more than €32 million in net funding by the end of 2020.

To celebrate the success of eligible projects with Maltese coordinators or beneficiaries, the MCST announced the launch of a new scheme to further support seven of these successful projects in the upcoming year. With this scheme we will be marking the end of the Horizon 2020 programme, and the MCST has successfully managed to finalise the preparatory works required for the launch of Horizon Europe – the new EU research and innovation programme. This is the largest transnational programme of its kind in history. It will be supporting research and innovation with an allocated budget of around €95.5 billion for a seven-year period. MCST will continue to fulfil its remit as the National Contact Point Organisation for Horizon Europe, and will continue supporting researchers and entities throughout the whole process of participation.

The Internationalisation Unit has continued to support MCST's ongoing internationalisation commitments, but also worked on securing new strategic partnerships for future collaborative activities. Most notably was the establishment of a cooperation agreement with the Scientific and Technological Research Council of Turkey (TÜBİTAK), with the first call for proposals foreseen for March 2021.

Five projects were awarded funding in 2020, with a total requested budget

of almost €700,000, through the national contributions linked to the PRIMA Programme, the SINO MALTA Fund, the JPI Oceans Joint Action on Microplastics and the Blue Bioeconomy ERA-NET Co-fund.

'Committed to make science more accessible to people.'

Set up with the mission to cultivate a culture of scientific curiosity and creativity, the National Interactive Science Centre, Esplora, is a leader in promoting Science, Technology, Engineering, and Mathematics (STEM) subjects amongst the public. Proof of our success in this regard, is the fact that there has been a registered 14% increase in interest in Science locally since the opening of Esplora.

Whilst 2020 may have brought with it challenges to science centres worldwide, it also gave us the opportunity to explore new ways of communicating science online. Indeed, Esplora shifted its operations entirely online when the pandemic struck and continued delivering its popular activities through our website and social media, until it was able to re-open its doors on 9th June. One of our successful new initiatives was a series of online webinars aimed at addressing controversial science related topics and other areas of public interest. This was kicked-off with a session dedicated to vaccinology.

A targeted approach is used at the centre, through its wide-ranging programmes and dedicated activities, which guarantees an experience for diverse audiences – ranging from students, families to senior citizens. This has been facilitated by the large network of stakeholders which Esplora has established throughout the years and the huge support it enjoys.

With the support of Bank of Valletta, Esplora is transforming a 4.5m by 2.6m enclosure into a Multi-Sensory room. It will consist of specifically designed spaces that will help empower people with a disability to make the most out of their learning experience through fun and relaxation. Esplora already embraces people living with a disability by providing a fully accessible visitor experience through adequate staff training, resources, and tailor-made programmes. However, this room will give these visitors an added value, particularly for those who will benefit greatly from the use of sensory experiences - such as individuals with dyslexia, autism, and dementia.

'A home for educators'

The Esplora team and the MCST appreciate the dedication that Maltese educators show in striving to ensure that our younger citizens are equipped with the skills needed for their future life and career. Teachers are indeed an important resource to our society and we offer a vast range of experiences

aimed at supporting their work.

We have introduced several initiatives targeting educators. In January 2019 Esplora introduced a free entry policy for all Maltese educators who visit the Science Centre with their family. A year later, in 2020, all state schools started benefitting from free transport to the Centre with the full support of the Ministry for Education and Employment. Moreover, discounted prices on entry tickets are still being offered to schools.

‘A hub for science communication and research’

At the heart of the MCST is the drive to further promote Malta’s capacity in research and innovation. Esplora is an indispensable tool to help foster a community of innovators by making the use of 21st century skills an integral component of its activities, such as critical thinking and creativity. This is being reinforced by the work being done to develop an interactive experience based on natural history and sciences, EsploraNatura. The preparatory works are well underway, and a Task Force group was formed to continue spearheading the development process in conjunction with the support being provided by KCA Consultants.

As one can note, we embrace the concept of innovation, not just in terms of the programmes we offer, but also by ensuring strategic growth through new projects. I am pleased to remark that the Esplora Foreshore Rehabilitation project is in its concluding stages and therefore next year, we expect to start welcoming visitors to the Villa Bigli complex by sea and through the historic Cot Lift.

‘Corporate Social Responsibility’

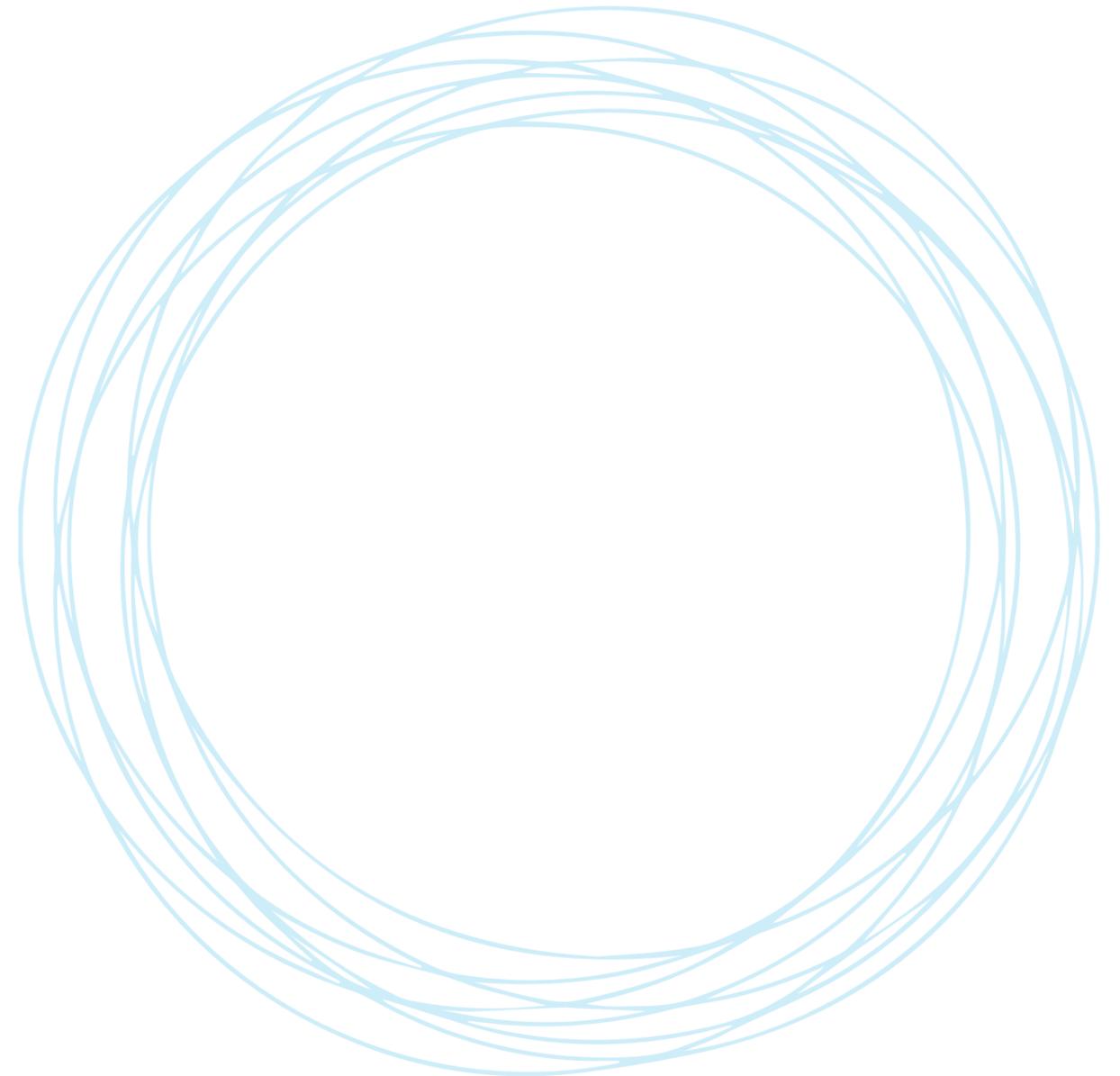
As part of our Corporate Social Responsibility efforts, this year saw the launch of a number of initiatives ranging from complimentary entry tickets to all health care workers, to the dissemination of free meals in the Cottonera region, prepared by our Esplora Café’ team during the pandemic period. This initiative was supported by Dr Lydia Abela. Additionally, we were honoured to have welcomed His Excellency George Vella, President of Malta, for a visit at the Interactive Science Centre, in which €500 were donated by the entity in aid of the Malta Community Chest Fund.

‘Ambitious to achieve’

There is always more than can be done. However, as you read through this Annual Report for 2020, I have no doubt that you will agree that much has been achieved despite the unprecedented times we are living in. I am proud

of the work that the MCST team is doing with the invaluable support of this government and our stakeholders.

As we look forward to 2021, we are committed to our efforts to continue supporting research and innovation and bringing people closer to science.



POLICY AND STRATEGY UNIT

Introduction

The main aim of the Policy and Strategy team is to advise the Government on matters relating to research, innovation and space at national, EU and international level. This Technical Unit is responsible for championing the implementation of the National R&I Strategy 2020 and ensuring that the principles of the Strategy¹ are mirrored in other national policies and strategies, thereby facilitating a coordinated approach to policy making across Government. In championing the Strategy's implementation, the team acts as a catalyst in bringing together key entities working on related issues to ensure open dialogue, information exchange and promote cooperation. The 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. In 2020, the Unit further strengthened its policy advisory function by increasing capacity for policy intelligence studies, thus providing a more robust evidence framework for the advice provided.

The National Research and Innovation Strategy

The Research and Innovation Strategy was launched in early 2014 and covers a seven-year period until 2020. Throughout 2020, the team continued with its oversight of the Strategy's implementation, including through the dedicated monitoring framework managed by the team. With the coming to an end of the time period covered by this strategy and further to the 2019 PSF Peer Review on the Maltese Research and Innovation system², a prioritisation exercise was undertaken throughout 2019 and 2020. The experience of the COVID-19 pandemic has spotlighted the need for policies to have greater flexibility and in-built timely responses to disruptive events. Discussions were held at Steering Group and Core Group level³ on the scope, prioritisation and ambitions of the post-2020 R&I Strategy for Malta. Work on the post-2020 R&I Strategy will continue in 2021, building on the collective insights and recommendations from these exercises, to focus on actions required to introduce the necessary changes in implementing structures and mechanisms.

During 2020, several important milestones were reached regarding the development of the 2021-2027 Smart Specialisation Strategy (RIS3). Building on the focus groups, consultations, bilateral meetings and in-depth analysis undertaken in 2019, a number of potential smart specialisation areas were identified. Further consultation with stakeholders from both public and private sector was undertaken with the aim of narrowing down the identified areas and selecting specialisation niches for R&I competitiveness in Malta. In April 2020, MCST issued a first vision document for public consultation, highlighting the potential new smart specialisation areas. Based on the feedback received a first draft of the Research & Innovation Smart Specialisation Strategy 2021-2027 was published for public consultation in October 2020 and revised further based on further feedback received. The 2021-2027 RIS3 is expected to be approved and launched in 2021.

¹ <https://mcst.gov.mt/psi/national-research-innovation-strategy/>

² <https://rio.jrc.ec.europa.eu/policy-support-facility/peer-review-maltese-research-and-innovation-system>

³ <https://mcst.gov.mt/psi/national-research-innovation-strategy/#1568293707847-40fd0565-c843>

Policy Advice

Throughout 2020, the Unit continued to assist and advise the Maltese government on all discussions and negotiations on the EU's research and innovation, and space policies. Advice was provided both at the technical level, for the Research Working Party (RWP) and the Space Working Party; and at the political level for meetings of EU permanent representatives (COREPER) and the Competitiveness Council meetings of research ministers (COMPET). Discussions in the Council mainly centered on: the conclusion and adoption of the remaining elements of the draft Horizon Europe Framework Programme and EU Space Regulation (2021-2027), together with the proposal to update the European Institute for Innovation and Technology (EIT) regulation and its corresponding new Strategic Innovation Agenda, as well the launch of negotiations on the proposal for the adoption of the Research Programme of the Research Fund for Coal and Steel (RFCS), the multiannual financial guidelines for managing the assets of the European Coal and Steel Community and the RFCS, and the establishment of European High Performance Joint Undertaking (EuroHPC). Furthermore, the Council Conclusions on the future of the ERA were deliberated and adopted, and debates were regularly held on topics linked to the COVID-19 outbreak and the twin Green and Digital transitions. The Unit also continued with its work representing Malta in various international fora such as the European Research Area and Innovation Committee (ERAC), the Standing Working Group on Gender in Research and Innovation (SWG GRI), the Standing Working Group on Open Science and Innovation (SWG OSI), the European Open Science Cloud (EOSC) and its Steering Board and the Fusion4Energy Governing Board, amongst others. This work was underpinned with biannual meetings involving all the national representatives of these expert groups, with the aim of ensuring a coordinated approach across all delegates and the sharing of relevant information.

Towards a National Open Access Policy

Following Malta's request to the European Commission Policy Support Facility (PSF) to support in the development of a national open access policy submitted by Malta, the final PSF Report was launched in April 2020. In July 2020, MCST coordinated the setting up of the National Open Science Technical Working Group. The working group members are expert representatives of key, national stakeholders in the field of Open Access, with MCST acting as Chair and Secretariat. This technical WG serves as the principal avenue for communication management, coordination and knowledge exchange for policy formulation required for the co-design of the National Open Access Policy, building on the PSF report recommendations while ensuring that actions are grounded in Malta's realities. The drafting of Malta's National Open Access Policy is expected to be completed in 2021.

Policy Intelligence: Monitoring and Analysis

The first Monitoring Report of the National R&I Strategy published in 2020, provided an overview of Malta's R&I performance for 2018, and a basis for future monitoring reports. In preparation for the new R&I RIS32021-2027, a list of indicators was selected and tested for the monitoring portion of the strategy. Data collection for the second Monitoring Report, and the last for the 2014-2020 R&I Strategy, also commenced and it shall include a joint analysis of Malta's R&I performance in 2019 and 2020. This report is expected to be finalised in 2021.

Further to the Unit's efforts to build more capacity on intelligence gathering, two R&I related studies were launched in 2020 to (a) understand the career paths and trajectories of doctorate holders, and (b) to evaluate the effectiveness of national R&I programmes and support schemes in the context of COVID-19. Two questionnaires, one for each study, were developed and launched in 2020 and the reports will be finalised in 2021.



R&I PROGRAMMES UNIT

FUSION – The National R&I Programme - 2020

Commercialisation Voucher Programme and Technology Development Programme

FUSION is the national Research and Innovation (R&I) funding programme designed to boost local research by encouraging researchers and technologists to transform their innovative ideas into market-ready realities. FUSION is endorsed through Maltese Governmental funds and it is managed by the Malta Council for Science and Technology (MCST).

FUSION is composed of two main programmes, namely the Commercialisation Voucher Programme (CVP) and the Technology Development Programme (TDP). Both programmes are essentially intended to provide the vital mentoring and financial support required by researchers and technologists to lift their ideas off the ground and take them to market. The CVP aims at improving the development and commercialisation potential of innovative research ideas, whilst the TDP supports the actual development of innovative projects.

Between 2016 and 2020, MCST received a total of **269 CVP applications** from public entities and industrial players. These applications targeted eight Smart Specialisation areas: ICT, Health, Resource Efficient Buildings, High Value-Added Manufacturing, Aviation & Aerospace, Tourism Product Development, Maritime and Aquaculture. Following scientific evaluations by external independent experts, a total of **126 applications** were selected for funding through 2 CVP Calls per year, requesting a total of almost €2.1 Million in funding. CVP grants up to €20,060 to public entities, whilst industrial players are eligible for €12,750 in funding.

Table 1 portrays a breakdown of 2019-2020 project submissions and funded projects per Smart Specialisation area. A comprehensive list of the 2016-2020 funded CVP projects, indicating their progress and status is provided in Table 2.

TDP Project beneficiaries were also given a further opportunity by the MCST to be provided with 3 Optional CVP vouchers with a total commitment of €0.38M (see table 3). These three vouchers grant a maximum of €15,000 for IP protection, €5,000 for business plan and €4,000 for investor meeting preparation.

Following the successful completion of the projects under the CVP, 10 projects were awarded funding under the TDP during 2020. A total of almost **€1.9M was committed to these projects**, with project durations up to 2023. A list of these projects can be viewed in Table 4.

Between 2004 and 2019 inclusive, **130 proposals were accepted for funding**, requesting a total commitment of approximately **€18.1 million**.

There were no calls in 2005 and 2007, and there were no closed calls in 2014 due to the dependency of the Commercialisation Voucher Programme.

The FUSION Programme budget was **€2.2M in 2020**. In 2021, FUSION will expand into a wider portfolio of programmes which will contain a single CVP Call and TDP Call which will be open for funding. The wider portfolio of programmes offered by FUSION in 2021 will be supported with a €3.5M budget.

Projects completed prior to 2020 have been removed from this table, however these can be viewed on the Council's website

Submitted Proposals by Sector	2020			2019		
	Number of Proposals	Funded Projects	Percentage of Total submissions	Number of Proposals	Funded Projects	Funded percentage of Total submissions
ICT	7	2	29%	10	7	70%
Health	7	4	57%	15	11	73%
Resource Efficient Buildings	2	0	0%	3	3	100%
Aviation & Aerospace	1	1	100%	2	2	100%
Maritime	0	0	0%	0	0	0%
High Value Added Manufacturing	5	4	80%	3	2	67%
Tourism Product Development	0	0	0%	3	1	33%
Aquaculture	0	0	0%	1	0	0%
Other	1	0		0	0	0%

Table 1: Breakdown of CVP project submissions in 2020 and 2019

Reference	Beneficiary	Title	Status
R&I_2020_003V	University of Malta	FABXS	Completed
R&I_2020_004V	University of Malta	VacuUM	Completed
R&I_2020_005V	University of Malta	VirtuS	Completed
R&I_2020_006V	University of Malta	ActON	Completed
R&I_2020_007V	University of Malta	Power ³	Completed
R&I_2020_008V	University of Malta	AIR SAVE	Completed
R&I_2020_009V	Department of Fisheries	CP LIGIA	Completed
R&I_2020_011V	Omnigene Technologies	m3PROFILER	Completed
R&I_2020_012V	MCAST	Plagiarism detection through machine vision	Completed
R&I_2020_020V	University of Malta	MicroCell 3D	Ongoing
R&I_2020_021V	University of Malta	SLID	Ongoing
R&I_2020_022V	University of Malta	CountME	Ongoing

Table 2: R&I CVP 2020 Report Table with Funded Projects

Reference	Title	Beneficiary
R&I-2018-016T	Drift	University of Malta
R&I-2018-016T	Brianapp	University of Malta
R&I_2017-032T	ACSAGO	University of Malta
R&I_2015_028T	FIHI	University of Malta
R&I_2017_025T	LASEEER	Laser Engineering and Development Limited
R&I_2016_033T	SATMET	University of Malta
R&I_2017_037T	BIOSA	University of Malta
R&I_2015_023T	MaltaHip	University of Malta
R&I_2015_016T	SmartFDM	University of Malta
R&I_2015_024T	Memento	University of Malta
R&I_2018_035T	ICECAP	University of Malta
R&I_2016_013T	Datadear	Datadear Limited / Scope Solutions
R&I_2015_044T	FLASC	University of Malta
R&I_2017_003T	RIDE+SAFE	University of Malta
R&I_2015_042T	Speechie	University of Malta
R&I-2016-002T	Nevac	University of Malta

Table 3: R&I CVP Optional Voucher 2019 and 2020 Report Table with Funded Projects

Reference	Title	Beneficiaries	Granted (€)	Status
R&I-2018-026T	Automated Document Analysis And Classification For Enhanced Enterprise Efficiency	University Of Malta	194,976	Initial
R&I-2019-010T	Design Of A New Thermal Building Block	University Of Malta	194,999	Initial
R&I-2019-004T	Lifelike Images From Text	University Of Malta	193,698	Initial
R&I-2018-031T	Thermoelectric Cooler For Electronic Applications	University Of Malta	194,939	Initial
R&I-2019-027T	Inflatable Arthroscopic Device As An Alternative To Knee Replacement Surgery	University Of Malta	194,498	Initial
R&I-2018-004T	Non-Contact Imaging For Vital Signs Monitoring	University Of Malta	194,996	Initial
R&I-2019-017T	Personalised Decompression Monitor	University Of Malta	194,982	Initial
R&I-2019-005T	Smart Insole Technology For The Salvage Of The Diabetic Foot	University Of Malta	194,981	Initial
R&I-2019-003T	A Smart User-Centred Product Service System For Evaluating And Developing Functional Hand Skills In Children With Cerebral Palsy	University Of Malta	188,949	Initial
R&I-2019-009T	Analysis Of Flight Data Anomalies Within A Weather, Geographical And Engineering Context	University Of Malta	194,973	Initial

Table 4: Projects Awarded under the Technology Development Programme during 2020

Research Excellence Programme



Early-stage research is a fundamental activity that up until recently, had not been adequately addressed by funding initiatives. In 2020 the Research Excellence Programme (REP) was created and a pilot call launched.

The primary aim of the programme 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.



MCST launched REP in October 2020 as a pilot scheme. During the **REP 2020 Call**, a total of **35 applications** were submitted to MCST from several entities, ranging

from public entities to industrial players, NGOs and non-profit making entities. Moreover, applications were received from a broad range of scientific areas ranging from health, digital technologies, engineering, transport and sustainable use of resources.

Further details with respect to the awarded projects, having a start date of 1st February 2021, can be found summarised in Table 5.

Project Reference	Title	Beneficiaries	Granted Amount (€)	Project Status
REP-2020-001 (ACTIPEP)	Methodology for the production of active pharmaceutical peptides	University Of Malta	€50,000	Ongoing
REP-2020-005 (BOB)	BOundaries of the Brain: A data-driven assessment of functional boundaries in the cerebral cortex	University of Malta	€49,999	Ongoing
REP-2020-006 (CanEpiRisk)	Cannabinoids in Epilepsy: A health risk, a new treatment in Absence Seizures, or both?	University of Malta	€49,972	Ongoing
REP-2020-009 (EDGE)	Endemic De novo GENomes	University of Malta	€48,950	Ongoing
REP-2020-011 (GeOM)	Unravelling the Genetic determinants of Familial Osteoporosis in Malta	University of Malta	€49,996	Ongoing
REP-2020-013 (ISADD)	Development of an Integrated Simulation and Assessment in Donning and Doffing for Healthcare Professionals	Malta College of Arts, Science and Technology	€38,977	Ongoing
REP-2020-017 (MISAM)	Malta's Introduction of Shared Autonomous Mobility	University of Malta	€49,982	Ongoing

Table 5: Projects awarded under the Research Excellence Programme 2020 Call

Following a successful uptake of the REP and the positive feedback obtained from interested entities, MCST is envisaging the relaunch of this programme through the FUSION portfolio, as a single call per year, with an increased budget. This ensures further funding for early-stage, basic research and simultaneously entices further engagement by the industrial players.

COVID-19 R&D Fund - 2020

The COVID-19 R&D Fund was set up in response to the coronavirus pandemic. The main objective of this fund is to provide innovative and/or improved approaches with respect to the prevention of current and/or future infectious diseases, as well as to the control and containment of the spread thereof. Research areas are varied and they include medical products, molecular biology and data collection. The **€5.3M fund** is co-administered by MCST and Malta Enterprise.

The COVID-19 R&D Fund proved to be a success with a total of **36 applicants** across public and private entities. Applicants were a combination of sole applicants and consortia. The total value of funding requested exceeded €18.5M, which further highlights the interest in R&D funding.

The fund underlined the need for more R&D investment to ensure that Malta is prepared for potential future threats of infectious diseases. Investing in all the aspects related to this research area, will help the sector use the lessons learnt from COVID-19, so that better solutions can be developed for the future. The COVID-19 R&D Fund awardees will help target this problem from different perspectives to achieve this common goal. Following on from the success of this fund, a new thematic programme under FUSION will be launched in 2021 – the Infectious Diseases Programme.

Project Reference	Title	Beneficiaries	Granted Amount (€)
COV.RD.2020.03 (COV-PLEX)	Development of a multiplex assay to determine SARS-CoV-2 strains and specific antibody producing transcripts	University of Malta & Omnigene Medical Technologies	€622,510 €28,706
COV.RD.2020.11 (TARGET-ID)	Novel Drug Targets for Infectious Diseases	University of Malta	€1,992,424
COV.RD.2020.22 (ACE)	Rapid Development of an Innovative Therapeutic Approach against SARS-CoV-2	University of Malta	€331,391
COV.RD.2020.25 (SANITAS)	Infectious Disease Prevention using Plasma-Activated Solutions	University of Malta	€477,325

Table 6: Awarded Projects for the COVID-19 R&D Fund

Space and Related Technologies – Update 2020

National Space Fund

Since signing the Implementation Arrangement with the European Space Agency (ESA) in 2018, the MCST has been tasked with the coordination and governance of space-related incentives in Malta. This arrangement enabled the establishment of a **€2 Million** national fund over 5 years, (2018-2022), known as **the National Space Fund**. It aims to jump-start the Maltese space sector through the introduction of several initiatives in the community with the technical support of the ESA. In 2020, despite the pandemic, the following initiatives continued to tangibly support local space capacity-building:

- The Space Research Fund; and
- The Space Education Programme.

Space Research Fund

ESA and MCST identified that Malta already held a strong ICT sector with highly transferrable skills to Earth Observation (EO) data processing. Consequently, and following the signing of the aforementioned Implementation Arrangement, the Space Research Fund scheme was launched. The scheme provides financial support for R&D&I in the downstream EO sector and it tackles societal challenges in Malta. The Space Research Fund scheme enables Maltese beneficiaries to initiate a track-record within EO space research, which undoubtedly bridges disparities between Malta and other expert nations. This helps position Maltese entities to better benefit from competitive space-related calls, such as those within the EU Framework Programme and others.

All Maltese legal entities are eligible to apply for this scheme. Eligible candidates could be academic institutions, public entities, private organisations and/or consortia of such. Consortia are encouraged to provide cross-disciplinary expertise. Proposals are to be focused on the utilisation and processing of Satellite EO data, tackling specific thematic areas, mostly aligned to the national priorities, the EU Copernicus Programme, and other areas identified through public consultation meetings.

During the first quarter of 2020, a competitive call for proposals to tap into these funds was opened, as was also done in the previous years. In 2020, MCST received a total of four proposals which were independently evaluated by three experts in the field of EO. As a result, MCST funded two projects entitled Coastal-SAGE and WARM-EO. The projects exploit satellite imagery to detect hazardous land changes and water usage in agricultural fields, respectively.

Table 7 shows the projects funded to date, the respective project duration, the targeted thematic areas, and the consortium where applicable. Their full abstract can be found through this link: <https://mcst.gov.mt/space-directorate/space-research-fund/>

Since the launch of the Space Research Fund in 2018, MCST funded 7 projects in total, with a duration of 20 months and a budget of €150,000 per project, totaling **€1.05M**. Moreover, MCST will launch another two competitive calls in the year 2021 and 2022, with a plan to

disburse a further €750-900k for EO-related projects. After 2022 and together with ESA, MCST shall re-assess its position, and will adjust its space-related initiatives with the aim of enhancing its support to the Maltese Space Sector.

Project Name	Commencement Date	Targeted End-date	Thematic Area	Consortium
PIXAM	Q3 2018	Q3 2021	Optimisation of agricultural processes using EO: the project aims to develop algorithms and crop patterns using Sentinel 2 satellite in order to increase the agricultural yield of crops.	Lead: Malta College of Arts, Science and Technology Partner: Ministry for Agriculture, Fisheries, Food and Animal Rights
SAT-FIRE	Q3 2018	Q2 2020	The project developed algorithms using satellite data fusion to enhance the resolution of freely available Sentinel 3 data to better monitor the Sea Surface Temperature around the coastal areas of Malta.	University of Malta
SAT-FIRE	Q3 2018	Q2 2020	The project developed algorithms using satellite data fusion to enhance the resolution of freely available Sentinel 3 data to better monitor the Sea Surface Temperature around the coastal areas of Malta.	University of Malta
AEROTOX	Q1 2020	Q3 2021	The project uses Sentinel 5P to monitor the atmospheric conditions of Malta. It aims to develop an Atmospheric Monitoring Toolbox for transport and health authorities to understand the impact of the atmospheric conditions on the Maltese community. Moreover, the toolbox will enable studies on the effects of atmospheric conditions on the electricity generation from photovoltaic panels.	Lead: Malta College of Arts, Science and Technology Partner: 4Sight Technologies Ltd.
WaterColours	Q3 2019	Q2 2021	Development of an oceanographic monitoring toolbox for the Maltese coastal waters using Sentinel 3 satellite to improve quality of life, perform environmental monitoring and risk assessments.	University of Malta
E04HBCS	Q3 2019	Q3 2021	Historic Building Conservation and Sustainability using EO: The project aims to monitor the changes in buildings, new and historic alike, due to the changes in the environmental conditions (seasons, weather, humidity, etc) and ultimately equip us with tools to conserve historical buildings.	University of Malta

Coastal-Sage	Q3 2020	Q2 2022	A project with a consortium to develop an efficient method to detect hazardous coastal areas using the Sentinel 1 satellite and a technique called interferometry. The project aims to develop a proactive system and replace the current inefficient reactive monitoring system.	Lead: University of Malta Partner: Ministry for Transport, Infrastructure and Capital Projects.
Warm-EO	Q3 2020	Q2 2022	Development of a Water Resource Management System for Agricultural Use. The aim of the project is to develop a remote sensing application using Sentinel 2 satellite to detect water use in Maltese agricultural fields.	Lead: University of Malta Partner: Energy and Water Agency Partner: Silesian University of Technology

Table 7: Awarded Projects for the Space Research Fund

Space Education Programme

In a sustained effort to continuously raise awareness on space applications, MCST, with the support of ESA embarked on a Space Education Programme for Maltese schools. This education programme not only bridges the gap between space applications and society, but it also drives into Maltese classrooms, the relevance of space-related data in better approaching challenges here on Earth. This programme is aligned with Malta's National Space Policy, which identifies a continued need for awareness-raising and related capacity-building. The educational initiatives include AstroPi, CanSat, Climate Detectives, amongst others, targeting primary, middle, secondary and post-secondary schools. Organised in collaboration with the Ministry for Education and Employment, ESA and Esplora, the annual Space Education Programme not only seeks to improve the scientific and technical insight of the younger generation, but also aims to develop soft skills, such as problem-solving, teamwork and communication.

In 2020, the COVID-19 pandemic did limit some of the physical activities pertaining to the programme, as per the guidelines issued by the Health Authorities. Nevertheless, MCST strived to maintain a continuum of activities, relying less on those requiring physical interaction and instead, turning to virtual activities involving teachers and students. The initiatives for 2020 included:

- Allowing teachers and students to participate in various free online workshops organised by the ESA Education Office.
- Production of a short and tailor-made message by Astronaut Andreas Mogensen to the Maltese youth community on the importance of abiding with the local health authority guidelines and the similar conditions astronauts must face before flying to space.

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 trainee travel costs and subsistence.



A trainee who enrolled in the scheme in 2019 at the ESA Centre for Earth Observation (also known as the European Space Research Institute or ESRIN), successfully concluded his studies in Quarter 4 of 2020. MCST is now in talks with the ESA Young Graduate Trainee Office to re-open this initiative in 2021.



Internationalisation Partnership Awards Scheme Plus (IPAS+) - 2020

Throughout the past five years, MCST has operated the Internationalisation Partnership Award Scheme (IPAS), with a transition to IPAS+ in the year 2019, where funding for Horizon 2020 proposal writing assistance was introduced. 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 financial assistance to Maltese entities planning to submit an EU Framework Programme proposal in their capacity as a coordinator. Under the latter, beneficiaries are able to engage a consultant (local or foreign), to support the EU Framework Programme proposal development.

Since the interest in IPAS+ scheme remains strong, MCST increased the scheme to two calls per year, instead of one. Despite the adverse impacts of the COVID-19 pandemic on IPAS+, particularly for Option A, the number of applications received in 2020 were at a par with previous years. In fact, IPAS+ 2020 Option A attracted 24 applications, whilst Option B attracted 7 applicants. Out of the 24 applications received under Option A, a total of 17 projects were awarded requesting a total of €84,737. Under Option B a total of 7 projects were awarded requesting a total of €35,000.

In 2020, MCST conducted a survey across past applicants and beneficiaries of IPAS and IPAS+ to gather participant feedback. From the results of this survey, it was evident that the majority of respondents feel that the IPAS+ scheme is well-aligned to their initial internationalisation needs, and the scheme is deemed useful to the development of eventual research projects. Respondents also provided valid feedback on how IPAS+ can be improved and these suggestions are currently under consideration for the improvement of the 2021 calls. Some of the feedback has however already been embedded in the 2020 call.

Another important fact which emerged from the survey, was that the IPAS+ scheme is proving to be effective. Some researchers that have benefitted from IPAS+, went onto successfully apply and attaining further funding through programmes such as Horizon 2020, EMBO funding, NGO funding, Erasmus+ and Marie Curie.

Project Number / Name of Entity	Funds Requested
IPAS-2020-007 University of Malta	€ 4,999
IPAS-2020-013 University of Malta	€ 5,000
IPAS-2020-006 University of Malta	€ 4,996
IPAS-2020-005 University of Malta	€ 5,000
IPAS-2020-009 University of Malta	€ 5,000
IPAS-2020-014 University of Malta	€ 5,000
IPAS-2020-011 University of Malta	€ 5,000
IPAS-2020-004 Malta Medicines Authority	€ 4,850

INTERNATIONALISATION UNIT

IPAS-2020-015 University of Malta	€ 4,992
IPAS-2020-003 Malta Medicines Authority	€ 4,900
IPAS-2020-017 University of Malta	€ 5,000
IPAS-2020-022 University of Malta	€ 5,000
IPAS-2020-029 University of Malta	€ 5,000
IPAS-2020-024 University of Malta	€ 5,000
IPAS-2020-030 AquaBioTech Group	€ 5,000
IPAS-2020-031 University of Malta	€ 5,000
IPAS-2020-020 University of Malta	€ 5,000

Table 8: IPAS+ Option A 2020 Funded Projects

Project Number / Name of Entity	Funds Requested
IPAS-2020-001 University of Malta	€ 5,000
IPAS-2020-002 University of Malta	€ 5,000
IPAS-2020-025 University of Malta	€ 5,000
IPAS-2020-021 University of Malta	€ 5,000
IPAS-2020-019 University of Malta	€ 5,000
IPAS-2020-027 University of Malta	€ 5,000
IPAS-2020-018 University of Malta	€ 5,000

Table 9: IPAS+ Option B 2020 Funded Projects

The Internationalisation Unit implements several regional and international funding programmes, assisting local stakeholders to participate in bilateral or transnational R&I projects. The unit also represents MCST in various international policy fora, with the aim of fostering more strategic partnerships for future collaborative opportunities. Such groups include the 5+5 Policy Dialogue, the Strategic Forum for International Scientific and Technological Cooperation (SFIC), Union for the Mediterranean (UfM) Regional Platform on R&I, EU Knowledge Network on China (EU-KNOC) and the High-Level Policy Dialogue EU-AU (HLPD).

As regards to programme implementation, the Internationalisation Unit administered several funding programmes throughout 2020.

PRIMA – Partnership for Research and Innovation in the Mediterranean Area

PRIMA⁴ operates under the framework of an Article 185 TFEU and its network consists of European Union Member States, Horizon 2020 Associated Countries and Mediterranean Partner Countries on an equal footing basis of co-ownership, co-management and co-funding, together with the participation of the European Commission. By funding R&I through competitive calls, the aim of PRIMA is 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”.



The PRIMA annual funding Calls operate under two different sections; Section 1 calls are funded by the European Commission, whilst Section 2 Calls are funded through the pooling of national resources from the Participating States. MCST launched the PRIMA 2020 calls in the first quarter of 2020, 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. Two projects were selected for funding under the Section 1 Calls. These projects are foreseen to start in 2021. In 2020, MCST also launched an ancillary funding programme to assist researchers in the drafting of PRIMA Proposals.

⁴ <https://prima-med.org/>

JPI Oceans - Joint Programming Initiative on Healthy and Productive Seas and Oceans

JPI Oceans⁵ is an intergovernmental platform that strives to increase the impact of national investments in marine and maritime research and innovation. JPI Oceans adds to the value of national research and innovation investments by aligning national priorities and implementing joint actions. MCST represents Malta in JPI Oceans and has actively been participating in several of its Joint Actions. In 2020, Malta, through MCST, started co-leading a new JPI Oceans Joint Action called Science for Good Environmental Status (Science4GES).



The Joint Action is foreseen to establish three main lines of activities, namely:

1. Knowledge sharing towards the determination of GES, through a series of workshops,
2. Joint integrated monitoring approaches, that will be taking advantage of all the state-of-the-art techniques and existing infrastructures, and
3. Test beds and augmentation observatories, that will introduce new infrastructures for near real time monitoring at sea.

The MarTERA ERA-NET Co-Fund and Blue Bio ERA-NET Co-fund are two other JPI Oceans Joint Actions that MCST participated in during 2020.

MarTERA ERA-NET Co-fund - Maritime and Marine Technologies for a new era

MarTERA⁶ is an ERA-NET Cofund Programme which aims to strengthen the European Research Area (ERA) in maritime and marine technologies, as well as Blue Growth. It is composed of a consortium made up of 16 collaborating countries, which collectively organise annual joint calls for proposals to support transnational, research projects in the field of marine and maritime technologies. In 2020, MCST participated in the third annual call for proposals, with a national budget of **€300,000** put forward for Maltese researchers to participate in international multilateral R&D projects focusing on environmentally friendly maritime technologies; Innovative concepts for ships and offshore structures; Automation and sensors; Advanced manufacturing and production; Safety and Security.



⁵ <https://jpi-oceans.eu/>
⁶ <https://www.martera.eu/>

Blue Bio – ERA-NET Co-fund Blue Economy

Blue Bio⁷ is an ERA-NET Cofund that aims to strengthen Europe's position in the blue bioeconomy sector, through coordinated R&D. It is made up of 27 partners from 16 countries, which collectively organise annual joint calls for proposals to support transnational research projects in the sphere of blue bioeconomy. In 2020, MCST participated in the first additional call, with a national budget of **€300,000** put forward for Maltese researchers to participate in international multilateral R&D projects focusing on advancements in the supply systems of the blue bioeconomy value chains. The results of the Call shall be issued in June 2021.



Science and Technology Cooperation between Malta and China – SINO-Malta Fund

The Sino-Malta Fund⁸ emanated 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) and subsequent agreements by the Joint Commission on Science & Technology between the Ministry of Science & Technology (MOST) of the PRC, and MCST. The aim of the Science & Technology Cooperation is to intensify scientific collaboration between the two countries to strengthen R&D activities, technology transfer and to carry out comprehensive, steady and long-term cooperation through support of researchers' mobility and the networking of industries, universities and research institutions to generate mutual-beneficial and win-win research. The first call was launched in 2019, with a total budget of **€700,000** put forward by MCST and MOST to fund projects in the field of Maritime Science and Transport. Seeing the interest that the 2019 call had generated, the overall call budget for the 2020 Call was increased to **€1,200,000**, with each party putting forward €600,000. The aim of the 2020 Call was to support bilateral R&D in the fields of marine / maritime technologies, Transport and Digital Technologies. Three projects were selected for funding and will be commencing in 2021.



⁷ <https://bluebioeconomy.eu/>
⁸ <https://mcst.gov.mt/internationalisation/sino-malta-collaboration/>

Cooperation between MCST and TÜBITAK

In 2020, MCST signed a bilateral agreement with TÜBITAK (Scientific and Technological Research Council of Turkey), with the aim of encouraging cooperation in the field of science, technology and innovation between, universities, research institutes and industrial enterprises from Turkey and Malta. During 2020, work took place to help establish a Joint Call for Proposals to be launched in 2021. This first call is foreseen to operate under the umbrella of the PRIMA programme, with the aim of supporting bilateral R&I collaboration in the fields of water management, sustainable agriculture, and agro-food value chains.

BLUE BIO MED – Mediterranean Innovation Alliance for Sustainable Blue Economy

In 2020, MCST became a partner in the INTERREG MED programme project, BLUE BIO MED⁹. This is a strategic project funded under the Interreg MED, focusing on strengthening innovation in the blue bioeconomy sector across the Mediterranean. The project started in September 2020 and has 11 partners residing in different countries across the Mediterranean, with an overall project value of €1,507,630, with MCST securing €82,892 for its participation in the project.

Plumtri – The Platform for Mediterranean Research and Innovation

Plumtri¹⁰ serves as a comprehensive platform for Mediterranean researchers, and entities with an interest in R&I, so that they may stay updated with all the latest news, events, funding, and work opportunities in the field of R&I. During 2020, several new features were deployed to facilitate networking activities and to widen plumtri's outreach, not only towards national stakeholders, but also for stakeholders residing in the Mediterranean region.



⁹ <https://blue-bio-med.interreg-med.eu/>

¹⁰ <https://www.plumtri.org/>

Project Reference	Title	Beneficiaries	Granted Amount (€)	Project Status
PRIMA-2018-02 (ZEROPARASITIC)	Innovative sustainable solutions for broomrapes: prevention and integrated pest management approaches to overcome parasitism in Mediterranean cropping systems	EPSILON Malta Ltd	€112,500.00	Ongoing
BB-2019-02 (AquaTech4Feed)	Novel sustainable aquaculture technologies for the production of innovative feeds for improved fish stocks	University of Malta	€100,000.00	Ongoing
MP-2019-01 (ANDROMEDA)	Analysis techniques for quantifying nano- and microplastic particles and their degradation in the marine environment	University of Malta	€100,000.00	Ongoing
SINO-MALTA-2019-02 (SEAM)	Surface Engineering for Additive Manufactured parts used in marine transportation	University of Malta	€175,000.00	Ongoing
SINO-Malta-2019-11 (AquaDetector)	High-Precision Detection Technologies for Water Quality in Aquaculture	AquaBioTech	€174,912.00	Ongoing

Table 10: Internationalisation Programmes 2020 Funded Projects

FRAMEWORK PROGRAMME UNIT

Horizon 2020 and Horizon Europe

Horizon 2020, the EU's multi-annual flagship Framework Programme for Research and Innovation came to an end on 31 December 2020. The Framework Programme Unit has helped numerous Maltese beneficiaries to successfully tap into this programme and between 2014-2020, Maltese beneficiaries have secured €35 million¹¹ in funding from the Programme.

As of January 2021, Horizon 2020 has been replaced by Horizon Europe which represents a bigger and more ambitious Framework Programme worth over €95 billion and that will cover the period between 2021-2027. This Programme facilitates collaboration and strengthens the impact of research and innovation in developing, supporting, and implementing EU policies while tackling global challenges and the United Nations Sustainable Development Goals. It supports the creation and better dispersing of excellent knowledge and technologies.

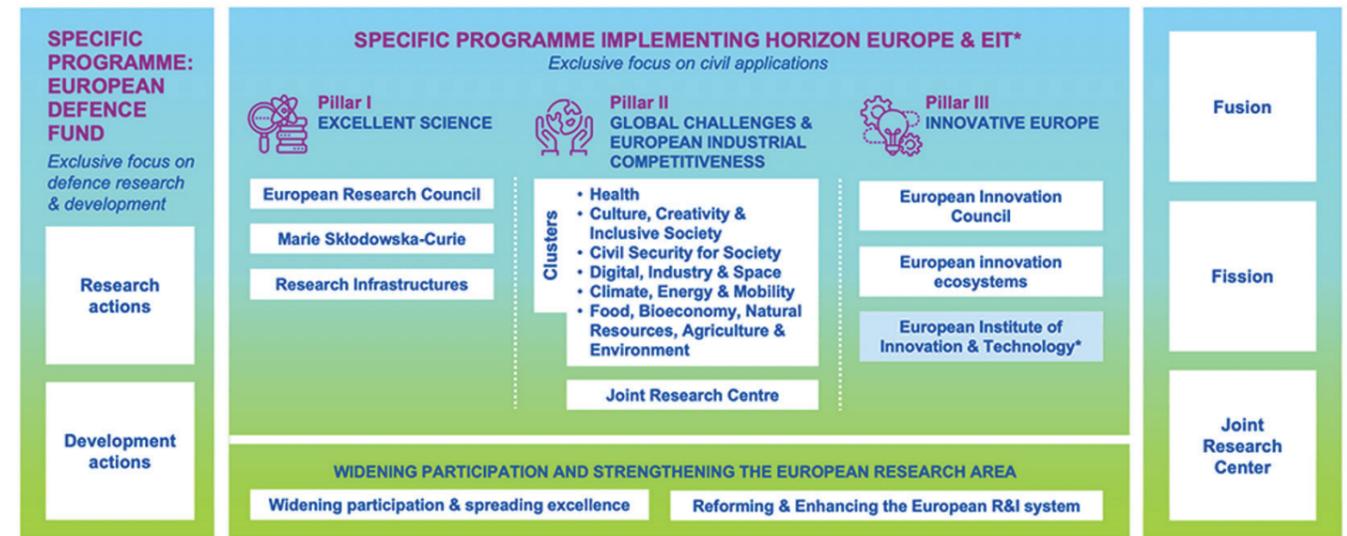
New approaches for a greater impact

A new generation of **European Partnerships** will bring the European Commission and private and/or public partners together to address some of Europe's most pressing challenges through concerted R&I initiatives. This new approach to partnerships ensures that the partnerships instrument of Horizon 2020 can continue in a simplified and more transparent form, reaching a broader set of stakeholders and creating stronger links with EU and national policies. A total of 49 Partnerships are proposed for the period covered by the first Horizon Europe Strategic Plan (2021-2024).

¹¹ Data by April 2021.

HORIZON EUROPE

EURATOM



* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

Overview of 49 candidate European Partnerships

PILLAR II - Global challenges & European industrial competitiveness				PILLAR III - Innovative Europe	
CLUSTER 1: Health	CLUSTER 4: Digital, Industry & Space	CLUSTER 5: Climate, Energy & Mobility	CLUSTER 6: Food, Bioeconomy, Agriculture, ...	EIT	SUPPORT TO INNOVATION ECOSYSTEMS
Innovative Health Initiative	Key Digital Technologies	Clean Hydrogen	Circular Bio-based Europe	InnoEnergy	Innovative SMEs
Global Health Partnership	Smart Networks & Services	Clean Aviation	Rescuing Biodiversity to Safeguard Life on Earth	Climate	
Transformation of health systems	High Performance Computing	Single European Sky ATM Research 3	Climate Neutral, Sustainable & Productive Blue Economy	Digital	
Chemicals risk assessment	European Metrology (Art. 185)	Europe's Rail	Water4All	Food	
ERA for Health	AI-Data-Robotics	Connected and Automated Mobility (CCAM)	Animal Health & Welfare*	Health	
Rare diseases*	Photonics	Batteries	Accelerating Farming Systems Transitions*	Raw Materials	
One-Health Anti Microbial Resistance*	Made in Europe	Zero-emission waterborne transport	Agriculture of Data*	Manufacturing	
Personalised Medicine*	Clean steel – low-carbon steelmaking	Zero-emission road transport	Safe & Sustainable Food System*	Urban Mobility	
Pandemic Preparedness* Co-funded or co-programmed	Processes4Planet	Built4People		Cultural and Creative Industries	
	Global competitive space systems**	Clean Energy Transition			
		Driving Urban Transitions			

CROSS-PILLARS II AND III
European Open Science Cloud

Legend:
■ Institutionalised Partnerships (Art 185/7)
■ Institutionalised partnerships / EIT KICs
■ Co-Programmed
■ Co-Funded

* Calls with opening dates in 2023-24
 ** Calls with opening dates not before 2022



During 2020, the FP Unit undertook a national consultation to enable MCST to prioritise and select the most relevant Partnerships to participate in to enable stakeholder's participation. The consultation collected feedback from Ministries, Academia and the Private Sector, and MCST selected a few of the top-ranking partnerships and will be participating actively with committed national budget, as from 2021 onwards.



Missions will be an integral part of the Horizon Europe, addressing some of the greatest challenges facing our daily lives like fighting cancer, adapting to climate change, protecting our oceans, living in greener cities, and ensuring soil health and food.

Each Mission will operate as a portfolio of actions – such as research projects, policy measures or even legislative initiatives - to achieve a measurable goal that could not otherwise be achieved through individual actions. Missions will contribute to the goals of the European Green Deal, Europe's Beating Cancer Plan as well as the Sustainable Development Goals.

In 2020, MCST nominated representatives from the relevant Ministries and MCST itself for all the Member State representative groups of the Mission areas. Furthermore, the Unit undertook consultations for each of the Mission areas. This was complemented by two events on 4 September 2020 (Westmed National Event); and 7 October 2020 (Cancer Mission Citizens Engagement Event).

Malta is represented in the Mission Boards by Professor Alan Deidun from University of Malta (Mission on Healthy Oceans, Seas, Coastal and Inland waters) and Mr Mark Scicluna Bartoli from Bank of Valletta (Mission on adaptation to Climate Change). Dr Miriam Dalmas, Ministry for Health sits on the Assembly of the Cancer Mission.

National Contact Points

MCST is mandated as the National Contact Organisation for the EU R&I Framework Programme. The National Contact Points (NCPs) support local stakeholders in participating in the R&I Framework Programme. The team is made up of 6 NCPs and the NCP Coordinator, each with specialised knowledge in their respective areas. The 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
- Managing several support schemes
- Creating digital content to promote success stories

Programme Committee Members

The FP Unit has a dual role of working as NCPs and as Programme Committee Members (PCMs) for their respective areas. The role of the PCMs is to provide advice which will assist the work of the EC in the drafting and implementation of the R&I Framework Programme. The PCMs focus most of their work in providing feedback on the multi-annual Work Programmes. The PCMs liaise with several experts and governmental entities, understand their opinions and views on the proposed work of the EC and communicate their feedback via the appropriate channels. After a series of consultations between the EC and the PCMs, a vote is held to endorse the documents discussed. The PCMs have a very important strategic role since they discuss strategic planning and create synergies with nationally funded initiatives.

During 2020, the FP Unit carried extensive work in preparation for the 2021-22 Horizon Europe work programmes as shadow committee members. Consultations were carried out and feedback provided to the Commission through online meetings or written procedures.

COST

The European Cooperation in Science and Technology (COST), is the longest-running European framework supporting the creation of interdisciplinary research networks across Europe.

COST in Malta is managed by MCST and Malta has been a member of COST since 1997. Malta is presently participating in **159 COST Actions** i.e. 87% of all running COST actions. 38% of researchers from Malta participating in COST actions are female. In 2020, 57 researchers based in Malta joined 37 new COST actions. Key contributions included participation in actions looking at Ion Technology for Nanomaterials; European network for Mediterranean cyclones in weather and climate; European Venom Network; Leading Platform for European Citizens, Industries, Academia and Policymakers in Media Accessibility; Network on Privacy-Aware Audio- and Video-Based Applications for Active and Assisted Living and European Network for assuring food integrity using non-destructive spectral sensors, among others.

Joint Research Centre (JRC)

The JRC is the EC's science and knowledge service which employs scientists to carry out research to provide independent scientific advice and support to EU policy.

The cooperation between JRC and Maltese partners focusses on prevention, preparedness and response to disasters, nuclear emergencies, radiological data and monitoring, as well as digital technology.

In January 2020, the winners of the Malta Young Scientist Award 2019 visited the JRC site in Seville to showcase their own research work. This study trip was the prize of the Malta Young Scientist Award, organised by MCST. The winners had the opportunity to present their work during a two-day study trip to the Seville Site of the EC JRC within the Economics of Climate Change, Energy and Transport Unit. Malta also collaborates with the JRC in several institutional scientific networks such as the Air Quality Laboratories Association, the European Network of Cancer Registries, EU National Coordinators for testing Methods and the Infrastructure for Spatial Information in Europe.

Malta's participation in Horizon 2020¹²

Horizon 2020 came to an end in 2020 with the last calls closing in January 2021. Since the beginning of the Programme, 1325 eligible proposals have been submitted with the participation of at least one Maltese applicant, and a total of 1532 Maltese applications. The number of proposals with a Maltese coordinator is 341.

From these proposals, 179 were selected for funding with the participation of 239 participations, with a net financial contribution of €35.4 million.

The overall success rate in Horizon 2020 of EU-28 is 15.5%, while the respective success rate for Malta is 14.5%.

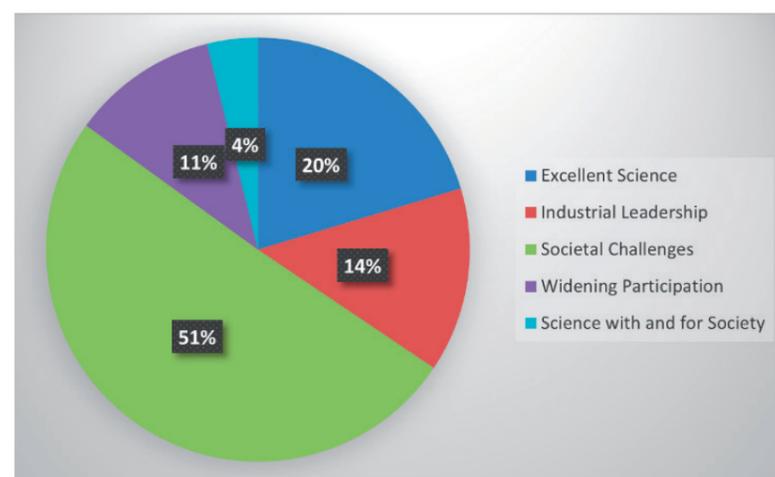


Table 1: Percentage of EU funding received per pillar.

¹² Data by April 2021. Some results yet to be published.

National Support Schemes

IF2MT

The **Individual Fellowship to Malta (IF2MT)** Scheme was launched to support the travel and accommodation expenses of experienced researchers to attend a Marie Skłodowska Curie Actions (MSCA) Individual Fellowship proposal-writing training in Malta. The Scheme was open for applications for those experienced researchers who have already identified their supervisor and planned to apply for the 2020 call with a Maltese host entity.

The proposal writing training was planned to take place on 24th April 2020 at Villa Bighi, however due to the COVID-19 situation, all applicants were invited to attend the training online.

The worldwide promotion of the IF2MT scheme and the online training were successful, attracting nearly double the number of researchers willing to apply with Maltese host for the MSCA IF 2020 call in comparison to previous years. The increased number of applications also resulted in increased number of successful proposals and success rate. Out of 24 applications, 5 projects were selected for funding for the MSCA IF 2020 call. During the annual MSCA IF calls for the period between 2014 and 2019, Malta managed to secure only 5 projects, the same number as in the single 2020 call.

Horizon 2020 Awards

In 2020, MCST organised the **Horizon 2020 Awards** scheme. The idea behind the awards was to reward Maltese beneficiaries for having participated in R&I projects within Horizon 2020.

The scheme was aimed at recognising the achievements in nine different award categories, eight for legal entities and one for individual researchers. The evaluations, of the applications received in November and December was conducted by external evaluators. The following proposals were awardees:

- Best Impact on Health, Security or Smart Mobility Award - AcrossLimits for the project Bio2Excel Centre of Excellence for Computational Biomolecular Research
- Blue Award for impact in the field of marine sciences - Naval Architecture Services for the project Venture
- Green Award for impact on environmental sciences - Epsilon Malta for the project SIM4Nexus
- Best Innovative SME Award was awarded to BrianTrip
- Best Promotion of STEM Award - Acrosslimits for ER4STEM
- Best Technological Innovation Award - AquaBioTech Limited for iFishIENCi
- The Most Active Researcher Award - Prof. Georgios N Yannakakis was awarded for his success and active contribution to academic research within the Horizon 2020 programme in Malta

The **Horizon 2020 Awards** provided the winners with visibility within the local research community and beyond. The award prize for each category was **€5,000**. The awards were presented at the Horizon Europe Launch Event in 2021.

PARADISE Call

In early October 2020, MCST announced the call for Ideas towards Start-Up Actions for a **PLastic fRee heAlthy meDIterranean Sea - PARADISE Call**. The call was aimed at Enabling Research in Plastics in a Circular Economy Context.

The call should enable successful participants to generate their ideas and carry out the necessary preparatory activities that may lead to an enhanced project proposal for Horizon Europe calls based on any actions they wish to carry out locally (in Malta) and may include activities overseas.

Proposals could be put forward with respect to catchments of the Maltese islands in view of the impacts on the Mediterranean Sea thereby encouraging collaboration with other Mediterranean partners.

One project was endorsed for funding - **IMPACT** project, coordinated by the Malta College of Arts, Science & Technology (MCAST) with AquaBioTech Group and NGO Zibel as partners. The project will be implemented throughout 2021. Two other organizations namely Nature Trust -FEE Malta and Legambiente/Circolo Festambiente will support the activities. A Grant Agreement was signed in late 2020 with MCAST for the implementation of the project according to the terms of reference that was issued for the call.

Horizon 2020 Events

The Covid-19 pandemic-imposed challenges for events in 2020 and necessitated change in the Unit's activities given that physical events and one-to-one meetings could not be held. Facing this new reality, the team managed to organise various events and workshops through digital platforms. The Unit was also involved in other events organised by third parties. In all, the unit organised 2 training events, 4 info session for specific entities, 12 webinars and 2 citizen engagement events.

Training Events

16/17 January 2020	Proposal Writing training event	One day training for the FP Unit NCPs and one day training for researchers on how to develop a winning proposal
9 July 2020	MSCA IF training (Net4mobility+)	Workshop dedicated to researchers willing to submit their MSCA IF proposal with a Maltese host entity and their local supervisors

Citizen Engagement Events

31 January 2020	R&I day Gozo	Informal networking event in Gozo
25 September 2020	MCST and MEUSAC R&I Day	This networking space, provided the opportunity to boost the much-needed synergies between the government, researchers, NGOs and industry when it comes to R&I

One-off Events

In 2020, the FP Unit was also invited to organize tailor-made events to several entities including the Malta Freeport, the University of Malta, MCAST, the Ministry for National Security and Law Enforcement (MHSE) and the Malta Business Bureau (MBB). The agenda for each event was designed according to the specific needs of each entity including topics and calls presented.

Webinars

The FP Unit organised a series of webinars since physical events could not take place due to Covid-19 restrictions. These webinars were open to all parties interested in the Horizon 2020 programme. The following webinars were organised between April and October 2020.

Horizon 2020 Webinars

1 April	MSCA and SWAFS Open Calls
9 April	SMEs and Start-ups Funding
6 May	Horizon 2020, the Basics
13 May	Secure Societies Open Calls
20 May	Energy Open Calls
27 May	Proposal Templates and Budgets
3 June	H2020 and COVID-related calls
10 June	EIC Accelerator
17 June	Consortium Building
24 June	Running a H2020 Project
7 October	Cancer Mission
8 October	Green Deal Calls

Table 11 - Table of webinars organized by the Framework Programme Unit

The webinars were well attended, having a substantial representation coming from academia, followed by public entities and businesses. In order to gauge the level of the webinars, a questionnaire was sent to the attendees and 87.5% are very satisfied with the information and content provided, about 44% indicated they would be applying for H2020 topics. Moreover, participants expressed their positive remarks and satisfaction through verbal feedback. Experienced participants remarked that the content on forthcoming opportunities was very easy to reference enabling a better understanding of the call requirements.

Projects

MCST via this technical Unit participates in several Horizon 2020 projects aimed at enhancing our day-to-day work. In 2020, the unit was active in implementing these 3 projects:

BLUEMED

The BLUEMED CSA project was launched in October 2016 to support the BLUEMED Initiative. Its main aim is to bolster blue growth in the Mediterranean by promoting the implementation of the BLUEMED Strategic Research and Innovation Agenda (SRIA).



In 2020, MCST, as Work Package 4 Leader, worked in close collaboration with the Coordinator as well as with all BLUEMED CSA partners and continued administering the implementation of the Start-Up Actions (SUAs) on Blue Growth in the Mediterranean, funded by the project. SuAs are understood as networking meetings and seminars leading up to the drafting of a feasibility study on an issue of particular relevance to blue growth in the Mediterranean in general and to the BLUEMED SRIA in particular.

The four Start-up Actions are:

- BlueBoatsMed: Foresight on cruise and recreational boating, their potential for transition towards a blue economy in the Mediterranean and associated environmental challenges, Coordinated by Plan Bleu, France with partners from Italy, Croatia, Spain, Tunisia, and France.
- SEALINES: Mediterranean Safety Network, Coordinated by the Ministry of Economic Development and Bicocca University of Milan, Italy with other partners from Italy, Egypt, Greece, Tunisia, Italy, Croatia, and Cyprus.
- ECOMEDPORT: Feasibility study of an ecosystem-oriented plant for sediments management in Mediterranean ports and marinas, Coordinated by the University of Bologna, Italy, with other partners from Italy, Tunisia, Lebanon, and Greece.
- LabMAF: Developing a Labelling Scheme for Mediterranean Small-scale and Artisanal Fish Products, Coordinated by the Euro-Mediterranean University EMUNI, in Slovenia, with partners from Malta, UK, Spain, Italy, Portugal, Lebanon and France.



Furthermore, throughout the year, MCST continued contributing to other tasks and activities such as updates of the BLUEMED SRIA, project events, contribution towards the Bluemed Implementation Plan Priorities, as well as dissemination activities amongst many other contributions.

Enterprise Europe Network (EEN) – MELIITA 4

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. All partners assist and accompany client SMEs along the entire partnership process – from the identification of suitable partnering opportunities to focused advisory services, and to the actual participation in events. MCST, being the consortium member specialising in research and innovation programmes, aided a large number of SMEs with regard to financing opportunities for both start-up and scale up companies.



The virtualisation of EEN brokerage activities and events, due to the COVID-19 pandemic; brought increased participation of SMEs, with MCST contributing to over 25 B2B meetings representing different clients. The consortium also introduced tailored support services on COVID-19 measures and general assistance to SMEs. The consortium successfully organised the EU04Business online which saw the participation of over 100 local SME experts, business owners and entrepreneurs. The digital event format provided a prime opportunity to address how Maltese SMEs can access finance, find new business partners, and adapt for the future. Over 30 national and EU experts and SME owners presented information and shared business success stories about the many services and funding opportunities the EU offers to SMEs.

EURAXESS Top IV Network Call

The objective of EURAXESS Top IV project is to develop and offer new services built on the results of previous EURAXESS projects. The project is providing financial support to all EURAXESS Bridge Head Organisations who have applied to the Network Call and are beneficiaries or linked third parties to the project.



EURAXESS Malta has benefitted through the call and in 2020 has used the budget to improve the content of the website and to promote its wider use through social media ads to users in Malta and abroad.



EURAXESS Portal: This Unit is also in charge of the EURAXESS Malta portal.

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 2020, the portal was updated with new content, including news, job offers, funding opportunities, events, hosting offers and others. Furthermore, all the links featuring on the portal were checked and corrected when needed. More than 6k users from around the world have visited EURAXESS Malta portal in 2020.

INFRASTRUCTURAL PROJECTS

ESPLORA Foreshore Embellishment Project

The Malta Council for Science and Technology identified an area of previously reclaimed land, hitherto very unsafe to access, falling within its perimeters, for an embellishment project. The intention was to render the area as one ideal for pedestrian access, where families could enjoy the enchanting Grand Harbour views, as well as to provide direct access from the foreshore to Esplora. For this reason, the construction of a pier, intended for the dis/embarcation of passengers, both from the Grand Harbour Ferry as well as from the Grand Harbour Tourist Cruise Vessels, was also included as part of the project.

It is envisaged that the Esplora Foreshore Embellishment Project will be completed, and the area made accessible to the public, by the end of the second quarter of 2021.

Bighi Foreshore Restoration Project

It has been felt that once the Esplora Foreshore Embellishment Project is completed, it would be most appropriate if the rest of the Bighi Foreshore was restored and also made accessible to the public. This project would entail the restoration of the Bighi Wall and Bathhouses (the so-called igloos) and the creation of a continuous walkway, all the way to Rinella Bay.

This project is to be implemented in parallel with the EsploraNatura project, more details of which can be found further on.

Villa Bighi Garden Platform Project

In its efforts to generate revenue to the entity and be less of a burden on state finances, Villa Bighi is also offered by the Malta Council for Science and Technology as a venue for events throughout the year. A project consisting of the installation of a Viewing Platform, with new resurfacing and flooring, new light fittings, an imposing steel structure, railings, and the necessary installation of services, intended to make the north-facing garden area more attractive for such events, was conceived.

The preparatory phase and the procurement phase were completed during 2020, the contract was awarded, and the works are planned to be implemented and completed by the end of the third quarter of 2021.

EsploraNatura

During 2020, the Malta Council for Science and Technology continued working on the ambitious project for the development of a new Natural History Discovery Centre, EsploraNatura, which will be situated in an existing building adjacent to MCST and Esplora. It is MCST's intention that EsploraNatura becomes the new home of the natural history collection currently housed at the Malta Museum of Natural History in Vilhena Palace, l-Imdina. EsploraNatura will have the character of a museum which collects, conserves, and displays artefacts, albeit doing so in a manner which befits modern forms of interpretation and display. The aim is to develop a world class visitor attraction focusing on the presentation and interpretation of natural history and of further developing the cultural hub for science engagement that the Villa Bighi site has become.

The intention of the development of EsploraNatura is to encourage a greater take up of STEM (science, technology, engineering and mathematics) subjects by Maltese students, thus enhancing Malta's knowledge-based economy. The main objectives of the project are to display a vast collection of natural history artifacts in a suitable environment and location in a broad, engaging, and contemporary manner, thus enhancing the visitor experience. The project will further entail the expansion of Esplora's overall activity and brand by broadening the content to include natural history, to expand the range of audiences that Esplora reaches out to, to continue building a cultural hub in il-Kalkara that supports learning and contributes to the regeneration of the area and to make the Villa Bighi site one of the primary destinations in Malta by offering a variety of different experiences. The project will further entail the restoration of historical buildings, which already has a cultural value in itself, as well as recreational and touristic impacts.

The cost of this EsploraNatura project has been estimated to exceed €40 million and it is MCST's intention to seek EU funding. EsploraNatura will be expected to attract circa 120,000 visitors per year.

The project has now reached a phase where an exhaustive Masterplan, as well as all the necessary Topographical Surveys and Geological Surveys of the site have been completed, thus paving the way for the issuing of a Call for Tenders for the Architectural Design and Project Management of the Works.

ESPLORA

INTERACTIVE SCIENCE CENTRE



As the public-facing unit of MCST, Esplora is an informal education and visitor attraction suited to visitors of all ages and interests. Esplora aims to offer visitors the opportunity to experience science as fun, exciting, and enjoyable through hands-on experiences with phenomena-related exhibits, and a range of workshops, science shows, planetarium films, activities and events. Esplora is made up of the Communications Department, the Education Department, and the Operations & Sales Department.

Communications Department

In such unprecedented times as the coronavirus pandemic, MCST had to navigate its way through the new normal with its public relations. With much of the traditional media landscape being upended, there needed to be an immediate shift to the use of digital media.

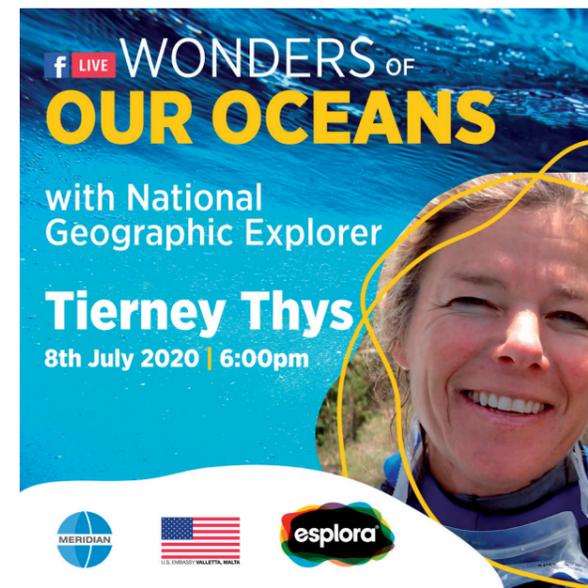
Esplora worked on developing videos graphics and animations aimed at disseminating fun content online through Facebook live, Instagram and YouTube whilst school children were stuck at home. The productions were branded as ESPLORA Esperimenti and transmitted on TVM, thus reaching local households.

Webinars

A Facebook webinar series was created aimed at stimulating debate and discussion around topical sessions.

- #1 COVID-19: Vaccinology and Infectious diseases.
- #2 It-Tibdil fil-Klima: Irriversibbli jew le?
- #3 Is-Saħħa Mentali fit-tfal iż-Żgħar.
- #4 L-informazzjoni onlajn dejjem tkun korretta?
- #5 Is-Servizzi tal-Kura tas-Saħħa, il-Ħaddiema fis-Settur u l-imxija tal-COVID-19.
- #6 Revealing the Wonders of our Oceans with Tierney Thys.

Esplora collaborated with the U.S. Embassy to bring National Geographic Explorer Dr. Tierney Thys. to deliver an interesting discussion about the ocean, ourselves as well as our intimate relationship with the natural world. Dr. Thys' research has taken her around the world tracking the world's heaviest fish, tackling issues such as marine plastic pollution, studying the human brain and mapping the influence of nature on our mental well being.



Virtual Meeting - The Citizens' Engagement event in Malta on the Mission on Cancer of the European Union

This meeting was organised by the Ministry for Health together with the Malta Council for Science and Technology and in collaboration with the Malta Health Network. The virtual meeting engaged with citizens to express and debate their views on the proposed programme of action on Conquering Cancer with 13 recommendations designed by the Board of the Mission on Cancer.

Press events

The year 2020 kicked off with the announcement of Esplora Calendar of Events. With Esplora winning the **Most Nominated Visitor Attraction Category** in the 2019 **Star Awards** by the Malta Tourism Authority, the programme was aimed at strengthening Esplora's visitor numbers. Despite the lockdown, MCST still managed to deliver a good number of press events when permissible, adhering to COVID-19 health measures and using live streaming when needed.

As part of its Corporate Social Responsibility, MCST felt that as an entity it had to get actively involved and assist those at risk of poverty during the coronavirus pandemic. MCST in collaboration with St. Margaret College and Foundation for Social Welfare Services helped families at risk within the Cottonera Community by preparing pre-packed meals for them. Dr Lydia Abela, Wife to the Prime Minister of Malta, Dr Robert Abela, visited Esplora on the 6th May and partook in the preparation of meals whilst commending MCST's work.

H.E. The President of Malta, George Vella and Mrs. Vella visited Esplora on the 26th August. His Excellency took time to tour around Esplora and met the Executive Chairman of the Malta Council for Science and Technology, Dr Jeffrey Pullicino Orlando, the directorial team and members of staff. His presidency embraces the principal of inclusion which goes hand in hand with MCST's work. Dr Jeffrey Pullicino Orlando presented a donation towards the Malta Community Chest Fund on behalf of the Council.

In September Mater Dei CEO Ms Celia Falzon visited Esplora. Esplora rewarded Mater Dei hospital front liners whereby all employees were given a free entrance to Esplora as a sign of appreciation of the work carried out. The initiative was extended to all Malta Health Care workers.

A remarkable moment was also the announcement of the setting up of a Multisensory room at Esplora through an agreement between MCST and Bank of Valletta held in December. The project is in line with Esplora's inclusive and accessible environment for people with different abilities.

Public engagement events

The public engagement events showcase and disseminate results of the R&I research projects funded by MCST under the FUSION fund. Three half day events were organised whereby the results of the funded project were disseminated. Such events were attended by industry professionals and the general public who could participate in an interactive panel discussion. All events earned major coverage on all media.

	5th March	<p>MaltaHip. A first-ever made in Malta total hip joint replacement. A novel hip hip implant design that provides superior wear resistance when compared to commercial prostheses which make use of the same biomaterials.</p>
	23rd October	<p>DataDear. A cloud-based solution for finance and business professionals. Over the past decade, the business world has experienced a noticeable shift from traditional software to software being offered as a cloud-based solution. An opportunity was identified and brought to life through DataDear, a synergised and integrated SaaS product.</p>
	11th December	<p>SATMET. Situation Awareness and Traffic Management for Engineless. An innovative solution based on the use of self-driving electric tow trucks to tow aircraft between the gate and the runway enabling aircrafts' engines to remain off during taxiing. Thus reducing emissions, noise, brake wear and maintenance costs with the potential to improve safety at the apron due to all engines being off and no jet blast is produced.</p>

Marketing & Design

The COVID-19 pandemic presented an opportunity for Esplora to assess its media marketing strategy, in particular the digital strategy and it was only natural that efforts were shifted towards it. As people were spending more time on social media, Esplora wanted to make sure to know when, where, and how to connect with them. In the absence of one-to-one interactions with the visitors, Esplora wanted to drive more engagement online and be visible when and where the audiences were most active. Esplora made use of social media platforms to cultivate a culture of scientific curiosity and imagination by igniting a passion for questioning, investigation, where the audience is encouraged to explore, think, and imagine.

The new social and digital media trends brought by COVID-19 has also affected the type of content that Esplora worked on and published. These varied from Science Café Webinars, Sfera Kids Activity booklets, Esplora Esperimenti videos featuring different experiments that can be done at home, Science Blogs, Esplora mill-iskola live links with schools, and different STEM related competitions to unleash the creativity of the various audiences.

During 2020, on Facebook, Esplora reached an audience of 407.6K which is 18.2% more than the previous year. Total Post Engagements was 228.1K, an increase of 161% from the previous year whilst followers on Facebook increased by 93.6%.

Education Department

Around 3,000 school children visited Esplora during the first 2 months of 2020. Another 10,500 visitors visited during January and February. Busy periods include the first week of January (festive season), the STEM Careers Expo and Kuluri Karnival event. Unfortunately, due to Covid, school visits were cancelled as of March and Esplora was closed for 3 months. During this period, Esplora continued with its mission through various channels. Various videos with experiments and challenges were uploaded on Esplora's social media channels on a regular basis. Several blogs and articles related to STEM were also published on the Esplora website and other magazines/newspapers. A series of online webinars and science cafes related to diverse subjects were also organised throughout the year.

Esplora reopened to the public in June, compliant with all the Covid restrictions issued by the Health Authority. A science week bonanza was organised during the Santa Marija period. In the subsequent months, a theme for each month was selected and the public programme of activities at Esplora together with the online programme were aligned to the theme. Unfortunately, most of the planned outreach was cancelled due to the pandemic apart from Science in the City which was held online. Esplora participated in both the public programme and the school programme of Science in the City. Since schools were not allowed to visit, preparations to offer online sessions for schools were underway.

The Halloween event which always proved to be a very popular Esplora event was held over 2 nights to ensure that Covid restrictions are adhered to but at the same time accommodate as many visitors as possible. Autism friendly hours were also held every other month. Esplora also prepared an advent calendar with daily activities for families to do together from home. To compensate for the fact that children could not visit Esplora with schools, all children entered for free during December and January.

Erasmus+ Projects

In December 2020, the Erasmus+ Projects within Esplora successfully ended a Key Action 2 project entitled 'Raising Awareness and Interest in STEAM Employment' - 2017-1-MT01-KA202-026978. Throughout this project spanning for 37 months, together with 5 other partners coming from the United Kingdom, Slovenia, and Italy, Esplora strived to inform and inspire STEM-related careers through the development of various resources targeted for various age groups, starting from 4 to 18 years of age. These resources include different activities and printable material which can be used by career guidance teachers, homeschoolers, and educators to inspire kids, to make STEM subjects more attainable, to humanise science and to tackle stereotypes. Among these resources, one can find various games and a storybook which is aimed for children between 6-8 years, all showcasing different STEM professionals coming from all partner countries which defy typical gender stereotypes. Furthermore, the team also developed an application 'RAISE Careers'. The application is in a quiz format and offers advice and guidance on VET professions in Europe, with a primary emphasis on partner countries, and is intended to encourage users to pursue careers in STEAM.

One can find all the mentioned material and further information about this project by visiting the project website: <https://raiseprojecteu.com/>

Esplora applied and successfully obtained funding for a new Key Action 2 Erasmus+ Project entitled 'Empowering Youths in STEM through the Arts' - 2020-2-MT01-KA205-074304. Through this project Esplora is collaborating with Agenzija Žaghzagħ, Inzjamed and two Science Centres, NEMO Science Museum and CosmoCaixa Barcelona. The project's top priority is that, as part of this initiative, all project participants will collaborate with youth workers and youths to involve them in informal STEAM and science communication education. Furthermore, exchanging knowledge and experiences will improve the project's

Empowering YOUTHS in STEM through the Arts

Are you between 16 and 24 years?
If yes, we need your assistance!

Esplora teamed up with Agenzija Žghazagh, Inizjamed and two other Science Centres from Spain and the Netherlands to create something exciting for and with youths through an **Erasmus+ Project**. We wish to have your opinion through a short questionnaire. Kindly take some time to help us provide a better setting for youths through STEM subjects.

Kindly click on the link below or scan the QR code.

<https://bit.ly/3cc1lug>

SCAN ME

Co-funded by the Erasmus+ Programme of the European Union

Agenzija žghazagh

CosmoCaixa

NEMO SCIENCE MUSEUM

ini zja med

esplora

2020-2-MT01-KA205-074304

outputs, especially through the development of an interactive resource, which would also enhance public speaking and debate skill sets among youths. The innovative aspect of this project is that the interactive resource will be developed based on research conducted as part of this project in collaboration with the Youth Agency, involving the youths.

Together with support from the European Union Programmes Agency (EUPA) Esplora had the possibility to extend the duration of two Key Action 1 Projects: 'Continuing Professional Development in STEM Adult Education through Cross-Border Cooperation and 21-st Century Skills' and Fostering 21st Century Skills through STEM. This was necessary due to the pandemic so as to ensure the safety of participants and to plan the mobilities in a safer environment.

STEM Engagement

Following the STEM Engagement Conference in 2019, the STEM Engagement Working Group was set up and started meeting at Esplora every two months. The Working Group, chaired by Esplora, brings together professionals from different organisations. It is tasked with discussing and planning initiatives aimed at improving the take-up of STEM subjects and at raising awareness on STEM careers and occupations. In 2020, the Working Group consisted of representatives from the Ministry of Education, University of Malta, MCAST, Jobsplus, Institute for Education, National Skills Council and Tech.mt.

The first initiative the Working Group launched in 2020 was the National STEM Career Expo. From 21st to 26th January, Esplora welcomed more than 1,200 children from different primary schools across Malta and engaged them in interactive hands-on activities (VR experiences, games, quizzes, coding exercises, tinkering activities and a lot more) with STEM professionals from over 35 organisations. The choice of a young target audience is in line with Esplora's research-based belief that it is very important for children to be exposed to STEM subjects and STEM occupations from their early years. The children also benefited from a science show and some free time to enjoy the exhibits. The Career Expo was very successful with children and teachers alike. It was also opened to the public during the weekend.

In September 2020, STEM Engagement teamed up with Programme Development at Esplora to prepare the content of a continuing professional development course for kindergarten and early primary school educators on Teaching STEM through Storytelling. This course, supported by Arts Council Malta, focused on the art of telling stories in a way that stimulates creative thinking and fosters interest in scientific concepts. An external collaborator was also invited to introduce educators to theatrical techniques that contribute to making classroom storytelling more captivating.

In conjunction with the STEM Engagement Working Group, the team worked on preparations for the National STEM Awards, a new award scheme aimed at honouring the contribution



of Maltese and Malta-based STEM professionals to education, the economy and society at large. Esplora hopes this biennial celebration will also create local role models and help combat science-related stereotypes. The team drafted guidelines and set up an online nomination and application portal, convened meetings with independent evaluators to set out the evaluation criteria and finally launched the scheme with ten awards in December 2020.

Operations & Sales Department

In response to the global COVID-19 pandemic operations had to find ways to best adapt to an ever-changing situation keeping the Health and Safety of Esplora's employees and customers a priority, while ensuring that all mandatory regulations were observed. Navigating these difficult waters required considerable flexibility, research and above all teamwork. With several regulatory amendments and updates throughout the year, communicating the latest and correct information to Esplora's staff and visitors was key. Esplora kept in close contact with the Infectious Disease Prevention and Control unit within the Ministry for Health, for guidance and support.



Despite the challenges this unique situation also provided unparalleled opportunities to grow and improve. 2020 saw the implementation of the new Tixpoint system, which was shepherded in during Esplora's 2020 Halloween event by launching of the centre's online-ticketing system. This was followed up shortly by phase two: migrating FoH reception to Tixpoint. These steps ensured that Esplora edged ever closer to creating a fully synchronous system encapsulating the many different departments at Esplora.

Front of House

As visitors facing staff, FoH personnel rose to the challenges of the year. When needed they checked temperatures, contributed to online content creations and they were the first to welcome visitors back once Esplora reopened its doors to the public mid-2020.

EsploraShop

In 2020 the EsploraShop managed to establish new business relationships with three new suppliers. It also managed to double its stock by focusing on more STEM related items on the shelves. A Mobile Shop was introduced in September allowing further visibility on the premises and a new central display shelving got delivered expanding the capacity and shelve space in the Hub.

Esploracafé

EsploraCafe received a facelift, and a new menu was introduced, featuring an increased variety of healthy alternatives. The cafeteria staff received full HACCP (Hazard Analysis Critical Control Point) training after which the system was implemented. To try to ease the burden some families had to face during the 2020 lockdown, EsploraCafe collaborated with St Margaret Collage and delivered free meal packages to financially vulnerable students and their families.

Audio Visual

The AV team was involved in the planning process of a tender calling for a new Activity Centre stage and facilitated an innovative live streaming event featuring popular local DJs to further increasing Esplora's visibility in the public eye.

EsploraPlanetarium

During the year 2020 the planetarium added 'To Space and Back' to its film library as well as started negotiations to secure the licencing of another film (Legends of the Night Sky) to expand the range of shows aimed at younger children. To follow Covid-19 health and safety regulations the planetarium was operating at a 50% reduced capacity.

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY

Annual Report

For the year ended 31 December 2020

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MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Annual Report and Financial Statements - 31 December 2020

General information

Registration

Malta Council for Science and Technology was set up by the Prime Minister on behalf of the Government of Malta as a Public Foundation. This Foundation was set up and is governed by the rules set out in the Charter of the Foundation.

Council

Chairman:	Dr. Jeffrey Pullicino Orlando
Deputy Chairman:	Mr. David Matrenza
Secretary:	Dr. Vincent Micallef
Board Members:	Prof. Ing. Saviour Zammit
	Ms. Abigail Mamo
	Ms. Marisa Xuereb
	Mr. Godwin Mifsud
	Dr. Ing. Alex Rizzo
	Dr. Ian Ellul
	Dr. Elaine Degiorgio
	Dr. Joseph Borg
	Ms. Joanne Grima
	Ms. Naida Pace
	Mr. Mark Borg
	Ms. Nadia Vassallo
	Dr. Chris Vella

Except for the Chairman, all Council Members were elected on 22 June 2020 for a term of 3 years.

Registered office

Malta Council for Science and Technology
"Villa Bighi"
Kalkara
Malta

Auditors

Busuttill & Micallef
Nr. 11, "L-Ufficcji"
Misrah 28 ta' Frar 1883
Birkirkara BKR 1501
Malta

Chairman's Report

The Chairman presents his report and the audited financial statements of the Malta Council for Science and Technology for the year ended 31 December 2020.

Principal Activities

The Malta Council for Science and Technology (hereafter referred to as the Foundation), is responsible for the development of science and technology in Malta.

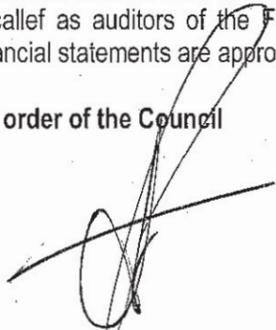
Performance review

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

Auditors

Busuttil & Micallef have intimated their willingness to continue in office. A proposal to reappoint Busuttil & Micallef as auditors of the Foundation will be put to the forthcoming Council meeting at which these financial statements are approved and authorised for issue.

By order of the Council



Dr. Jeffrey Pállicino Orlando
Chairman

Malta Council for Science and Technology
"Villa Bighi"
Kalkara
Malta

20 July 2021

Chairman's Responsibilities

The Council is required by the Charter Document of the Foundation to prepare financial statements for each financial period which give a true and fair view of the state of the affairs of the Foundation and of the surplus or deficit of the Foundation for that period. In preparing these, the Council Members are required to:

- adopt the going concern basis unless it is inappropriate to presume that the Foundation will continue in the business;
- select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- account for income and charges relating to the accounting period on the accruals basis;
- value separately the components of asset and liability items; and
- report comparative figures corresponding to those of the preceding accounting period.

The Council Members are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Foundation and to enable them to ensure that the financial statements comply with the Charter Document of the Foundation. They are also responsible for safeguarding the assets of the Foundation and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Income Statement

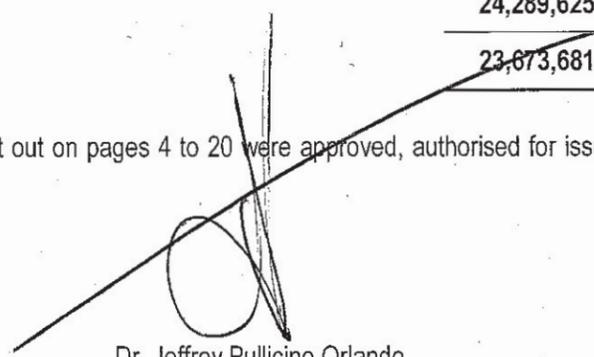
	Notes	Year ended 31 December	
		2020 €	2019 €
Revenue – Projects	3	3,350,174	2,971,232
Revenue – Operational subventions	3	4,890,000	4,096,998
Revenue – Esplora Interactive Science Centre	3	91,360	274,917
Direct expenditure - projects		(3,159,245)	(2,911,231)
Gross surplus		5,172,289	4,431,916
Other income	4	1,346,752	1,622,080
Administrative expenses		(6,594,101)	(6,444,132)
Operating deficit		(75,060)	(390,136)
Investment income	5	948	1,325
Deficit for the year		(74,112)	(388,811)

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Balance Sheet

	Notes	As at 31 December	
		2020 €	2019 €
ASSETS			
Non-current assets			
Intangible assets	8	790,380	669,929
Property, plant and equipment	9	16,322,539	16,926,576
Investment in subsidiary	10	1,500	1,500
		17,114,419	17,598,005
Current assets			
Trade and other receivables	11	1,173,276	838,838
Cash and cash equivalents	12	5,385,986	6,850,846
		6,559,262	7,689,684
Total assets		23,673,681	25,287,689
EQUITY AND LIABILITIES			
Equity			
Accumulated losses	13	(615,944)	(541,832)
LIABILITIES			
Non-current liabilities			
Trade and other payables	14	21,058,406	20,726,004
Current liabilities			
Trade and other payables	14	3,231,219	5,103,517
		24,289,625	25,829,521
Total equity and liabilities		23,673,681	25,287,689

The financial statements set out on pages 4 to 20 were approved, authorised for issue and signed by the Council on 20 July 2021.


Dr. Jeffrey Pullicino Orlando
Chairman

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Statement of Changes in Equity

	Accumulated losses €	Total €
At 1 January 2019	(153,021)	(153,021)
Deficit for the year	(388,811)	(388,811)
At 31 December 2019	(541,832)	(541,832)
At 1 January 2020	(541,832)	(541,832)
Deficit for the year	(74,112)	(74,112)
At 31 December 2020	(615,944)	(615,944)

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Cash Flow Statement

	Note	Year ended 31 December	
		2020 €	2019 €
Cash flows from operating activities			
Operating deficit		(75,060)	(390,136)
Adjustment for:			
Depreciation and amortisation charge		1,487,546	1,510,926
		1,412,486	1,120,790
Change in trade and other receivables		(231,870)	(133,417)
Change in trade and other payables		(1,872,298)	1,564,022
		(691,682)	2,551,395
Cash (used in)/generated from operations		948	1,325
Investment income			
Net cash (used in)/ generated from operating activities		(690,734)	2,552,720
Cash flows used in investing activities:			
Acquisition of property, plant and equipment		(764,877)	(1,234,307)
Acquisition of intangible assets		(239,083)	-
Payments/advances to subsidiary		(102,568)	(66,918)
Net cash used in investing activities		(1,106,528)	(1,301,225)
Cash flows generated from financing activities			
Contribution from government grants		332,402	790,850
Net movement in cash and cash equivalents		(1,464,860)	2,042,345
Cash and cash equivalents at beginning of year		6,850,846	4,808,501
Cash and cash equivalents at end of year	12	5,385,986	6,850,846

7

Notes to the Financial Statements

1 Basis of preparation

1.1 Basis of measurement and statement of compliance

The financial statements of the Foundation have been prepared in accordance with the Accountancy Profession (General Accounting Principles for Small and Medium-Sized Entities) Regulations, 2015 and the Schedule accompanying and forming an integral part of those Regulations ("GAPSME"). The financial statements have been prepared on the historical cost basis.

1.2 Functional and presentation currency

The financial statements are presented in Euro, which is the Foundation's functional currency.

2 Significant accounting policies

2.1 Property, plant and equipment

Recognition and measurement

The cost of an item of property, plant and equipment is recognised as an asset when it is probable that the future economic benefits that are associated with the asset will flow to the entity and the cost can be measured reliably. Property, plant and equipment are initially measured at cost comprising the purchase price, any costs directly attributable to bringing the assets to a working condition for their intended use, and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located. Subsequent expenditure is capitalised as part of the cost of property, plant and equipment only if it enhances the economic benefits of an asset in excess of the previously assessed standard of performance, or it replaces or restores a component that has been separately depreciated over its useful life.

After initial recognition, property, plant and equipment are carried under the cost model, that is at cost less any accumulated depreciation and any accumulated impairment losses.

2 Significant accounting policies – continued

2.1 Property, plant and equipment – continued

Depreciation

Depreciation is calculated to write down the carrying amount of the asset on a systematic basis over its expected useful life. Depreciation of an asset begins when it is available for use and ceases at the earlier of the date that the asset is classified as held for sale (or included in a disposal group that is classified as held for sale) or the date that the asset is derecognised. The depreciation charge for each period is recognised in profit or loss.

The rates of depreciation used for other items of property, plant and equipment are the following:

▪ 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%

Depreciation method, useful life and residual value

The depreciation method applied, the residual value and the useful life are reviewed on a regular basis and when necessary, revised with the effect of any changes in estimate being accounted for prospectively.

Derecognition of property, plant and equipment

Property, plant and equipment are derecognised on disposal or when no future economic benefits are expected from their use or disposal. Gains and losses arising from derecognition represent the difference between the net proceeds (if any) and the carrying amount and are included in profit or loss in the period of derecognition.

2.2 Intangible assets

Internally generated intangible assets – research and development costs

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

- 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.

2 Significant accounting policies – continued

2.2 Intangible assets – continued

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.

Amortisation method, useful life and residual value

The amortisation method applied, the residual value and the useful life are reviewed on a regular basis and when necessary, revised with the effect of any changes in estimate being accounted for prospectively.

Derecognition of intangible assets

Intangible assets are derecognised on disposal or when no future economic benefits are expected from their use or disposal. Gains and losses arising from derecognition represent the difference between the net proceeds (if any) and the carrying amount and are included in profit or loss in the period of derecognition.

2.3 Investment in subsidiary

A subsidiary is an entity which is controlled by the Foundation. Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities.

An investment in a subsidiary is initially measured at cost. After initial recognition, the investment in subsidiary is measured using the cost method.

Under the cost method, the investment is measured at cost less any accumulated impairment losses. Distributions received from the subsidiary are recognised as investment income in profit or loss when the Foundation's right to receive the dividend is established.

2.4 Financial assets, financial liabilities and equity

A financial asset or a financial liability is recognised on the Foundation's balance sheet when the Foundation becomes a party to the contractual provisions of the instrument.

Financial assets and financial liabilities are initially recognised at their fair value plus in the case of financial assets and financial liabilities not classified as held for trading and subsequently measured at fair value, transaction costs attributable to the acquisition or issue of the financial assets and financial liabilities.

2 Significant accounting policies – continued

2.4 Financial assets, financial liabilities and equity – continued

Financial assets and financial liabilities are derecognised if and to the extent that, it is no longer probable that any future economic benefits associated with the item will flow to or from the entity.

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

A financial instrument, or its component parts, is classified as a financial liability, financial asset or an equity instrument in accordance with the substance of the contractual arrangement rather than its legal form.

Trade and other receivables

Trade and other receivables are carried at cost less any impairment losses (refer to accounting policy 2.5).

Trade and other payables

Trade and other payables are stated at their nominal value.

2.5 Impairment

The Foundation's property, plant and equipment, intangible assets, investment in subsidiary and financial assets are tested for impairment.

i. Property, plant and equipment, intangible asset and investment in subsidiary

The carrying amounts of the Foundation's property, plant and equipment, intangible assets and investment in subsidiaries are reviewed at each balance sheet date to determine whether there is any indication of impairment. If any such indication exists, the asset's recoverable amount is estimated. The recoverable amount of an asset is the higher of its fair value less costs to sell and its value in use.

Whenever the carrying amount of an asset exceeds its recoverable amount, an impairment loss is recognised and the carrying amount of the asset is reduced to its recoverable amount. Impairment losses are recognised immediately in profit or loss, unless they relate to an asset which is carried at revalued amount, in which case they are treated as a revaluation decrease to the extent that the impairment loss does not exceed the amount in the revaluation surplus for that asset.

2 Significant accounting policies – continued

2.5 Impairment – continued

Property, plant and equipment, intangible asset and investment in subsidiary – continued

The carrying amounts of the Foundation assets are also reviewed at each balance sheet date to determine whether there is any indication that an impairment loss recognised in prior periods may no longer exist or may have decreased. If any such indication exists, the asset's recoverable amount is estimated. An impairment loss previously recognised is reversed only if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. When an impairment loss subsequently reverses, the carrying amount of the asset is increased to the revised estimate of its recoverable amount, to the extent that it does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior years. Impairment reversals are recognised immediately in profit or loss, unless they relate to an asset which is carried at revalued amount, in which case they are treated as a revaluation increase unless an impairment loss on the same asset was previously recognised in profit or loss.

ii Financial assets

A financial asset or a group of financial assets is impaired and impairment losses are incurred if, and only if, there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated.

If there is objective evidence that an impairment loss on financial assets carried at amortised cost or cost has been incurred, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the financial asset's original effective interest rate. The amount of the loss is recognised in profit or loss. If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, the previously recognised impairment loss is reversed. The reversal does not result in a carrying amount of the financial asset that exceeds what the amortised cost/cost would have been had the impairment not been recognised at the date the impairment is reversed. The amount of the reversal is recognised in profit or loss.

2.6 Cash and cash equivalents

Cash comprises cash on hand and demand deposits. Cash equivalents are short-term investments that are held to meet short-term cash commitments rather than for investment or other purposes.

2 Significant accounting policies – continued

2.7 Income

Project income

Project income is recognised when there is reasonable assurance that all the conditions attaching to it are complied with and the grants will be received. Any grants relating to future periods are recognised as deferred income. Project income is recognised in income and expenditure so as to match it with the cost towards which it is intended to contribute.

Government grants

Government grants are recognised when there is reasonable assurance that all the conditions attaching to them are complied with and the grant will be received. Any grants relating to future periods are recognised as deferred income. Government grants are recognised in income and expenditure so as to match them with the cost towards which they are intended to contribute. Such grants are presented in Other Income in the income and expenditure account.

Interest income

Interest income is recognised when the inflow of economic benefits associated with the transaction is probable and the amount of income can be measured reliably. Interest income is accrued on a time proportion basis.

Rental income

Rental income is recognised when the inflow of economic benefits associated with the transaction is probable and the amount of income can be measured reliably. Rental income is recognised in profit or loss on a straight-line basis over the lease term.

2.8 Employee benefits

The Foundation contributes towards the state pension in accordance with local legislation. The only obligation of the Foundation is to make the required contributions. Costs are expensed in the period in which they are incurred.

3 Revenue

Revenue is analysed as follows:

	2020 €	2019 €
Project income	3,350,174	2,971,232
Operational subventions	4,890,000	4,096,998
Esplora Interactive Science Centre income	91,360	274,917
	<u>8,331,534</u>	<u>7,343,147</u>

4 Other income

	2020 €	2019 €
Grant income	1,212,842	1,276,922
Other income	57,402	111,810
Agency income	37,508	130,348
Management fees	39,000	103,000
	<u>1,346,752</u>	<u>1,622,080</u>

5 Investment income

Investment income is analysed as follows:

	2020 €	2019 €
Interest income on cash and cash equivalents	948	1,325

6 Operating deficit

6.1 Operating deficit is stated after charging the following:

	2020 €	2019 €
Depreciation and amortisation expenses	<u>1,487,546</u>	<u>1,510,926</u>

6 Operating deficit – continued

6.2 Total remuneration paid to the Foundation's auditors during the year amounts to:

	2020 €	2019 €
Audit fees	<u>3,500</u>	<u>3,500</u>

6.3 Staff costs incurred during the year are analysed as follows:

	2020 €	2019 €
Wages and salaries	3,642,669	3,199,668
Social security costs	275,486	223,932
Council Members' emoluments	-	200
	<u>3,918,155</u>	<u>3,423,800</u>

6.4 The average number of persons employed by the Foundation during the year were as follows:

	2020 No.	2019 No.
Management and administration	<u>157</u>	<u>154</u>

7 Income taxes

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

8 Intangible assets

	Esplora natura €	Pre-trading expenses €	Total €
1 January 2020			
Cost	171,630	775,617	947,247
Accumulated amortisation	-	(277,318)	(277,318)
Net book amount	171,630	498,299	669,929
Movement for the year ended 31 December 2020			
Opening net book amount	171,630	498,299	669,929
Additions	239,083	-	239,083
Amortisation charge	(41,071)	(77,561)	(118,632)
Closing net book amount	369,642	420,738	790,380
At 31 December 2020			
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

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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 €
1 January 2020									
Cost	445,116	20,427,888	54,082	37,828	87,561	332,653	8,852	659,086	22,053,066
Accumulated depreciation	(315,556)	(3,891,608)	(49,366)	(24,363)	(87,561)	(243,114)	(8,852)	(506,070)	(5,126,490)
Net book amount	129,560	16,536,280	4,716	13,465	-	89,539	-	153,016	16,926,576
Movement for the year ended 31 December 2020									
Opening net book amount	129,560	16,536,280	4,716	13,465	-	89,539	-	153,016	16,926,576
Additions	59,534	605,174	-	2,974	-	43,443	-	53,752	764,877
Depreciation charge	(22,196)	(1,212,841)	(708)	(2,212)	-	(25,030)	-	(105,927)	(1,368,914)
Closing net book amount	166,898	15,928,613	4,008	14,227	-	107,952	-	100,841	16,322,539
At 31 December 2020									
Cost	504,650	21,033,062	54,082	40,802	87,561	376,096	8,852	712,838	22,817,943
Accumulated depreciation	(337,752)	(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

10 Investment in subsidiary

	2020 €	2019 €
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

Name of company	Registered office	2020 %	2019 %
Engage Science Limited	MCST, Villa Bighi Marina Street Kalkara	100	100

11 Trade and other receivables

	2020 €	2019 €
Trade receivables	18,090	33,118
Prepayments	48,571	34,395
Accrued income	279,405	183,763
Indirect taxation	310,511	347,345
Amount due from subsidiary (Note)	137,380	239,948
Other receivables	379,319	269
	<u>1,173,276</u>	<u>838,838</u>

Note:

Amount due from subsidiary is unsecured, interest free and repayable on demand.

12 Cash and cash equivalents

Cash and cash equivalents included in the cash flow statement comprise the following balance sheet amounts:

	2020 €	2019 €
Cash at bank and in hand	5,385,986	6,850,846

13 Accumulated losses

Accumulated losses represent accumulated surpluses and deficits.

14 Trade and other payables

14.1 Non-current liabilities

	2020 €	2019 €
Government grants	21,058,406	20,726,004

In accordance with the Foundation's accounting policies relating to grants received for the purchase of tangible non-current assets, grants are included with non-current liabilities and are credited to the income statement 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 Foundation for the design and construction of the Esplora Interactive Science Centre.

14.2 Current liabilities

	2020 €	2019 €
Trade payables	151,246	156,514
Accruals	397,401	2,450,539
Deferred income	2,560,817	2,473,281
Other payables	121,755	23,183
	<u>3,231,219</u>	<u>5,103,517</u>

15 Contingent liabilities

At 31 December 2020, bank guarantees amounting to €5,370 (2019: €5,370) were given by the Foundation during the normal course of operational activity in favour of third parties over which no loss is expected to arise.

Third parties have initiated legal proceedings against the Foundation, claiming that the Esplora Interactive Science Centre contract be awarded to them. The Foundation has requested a retrial which is currently being heard. The Foundation's lawyers are unable to quantify any potential contingency arising from the said case due to the nature of the claims.

16 Related party transactions

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

	2020 €	2019 €
Revenue	3,350,174	2,971,232
Projects operational-subvention	4,890,000	4,096,998
	<u>8,240,174</u>	<u>7,068,230</u>

Salaries payable to the Council Members have been disclosed separately in Note 6.

	2020 €	2019 €
Amounts due from subsidiary		
Opening balance	239,948	173,030
Movements for the year	(102,568)	66,918
	<u>137,380</u>	<u>239,948</u>

17 Statutory information

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

Independent Auditor's Report

To the Council Members of the Foundation

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Foundation, set out on pages 4 to 23, which comprise the balance sheet as at 31 December 2020, and the income statement, statement of changes in equity and cash flow statement 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 balance sheet of the Foundation as at 31 December 2020, and of its financial performance and its cash flows for the year then ended in accordance with the Accountancy Profession (General Accounting Principles for Small and Medium-sized Entities) Regulations, 2015 and the Schedule accompanying and forming an integral part of those Regulations (GAPSME).

This report is made solely to the Council members. Our audit work has been undertaken so that we might state to the Council members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report or for the opinion we have formed.

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 Foundation 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 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 Chairman's report. Our opinion on the financial statements does not cover this information. 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. Based on the work we have performed, in our opinion:

- the information given in the 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 Foundation and its environment obtained in the course of the audit, we are required to report if we have identified material misstatements in the Chairman's report. We have nothing to report in this regard.

Independent Auditor's Report – continued

Responsibilities of the Council

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

In preparing the financial statements, the Council is responsible for assessing the Foundation 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 Council either intends to liquidate the Foundation or to cease operations, or has 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 skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the 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 Foundation's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Council.
- Conclude on the appropriateness of the Council's 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 Foundation 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 Foundation 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 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.



Lorraine Muscat
Partner

For and on behalf of
Busuttil & Micallef
Certified Public Accountants

Nr. 11, "L-Ufficcji"
Misrah 28 ta' Frar 1883
Birkirkara BKR1501
Malta

20 July 2021

Appendix I

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Detailed Results - 31 December 2020**Project income**

	2020 €	2019 €
FP programmes	98,776	75,965
RTDI programmes	2,561,544	1,637,497
Other programmes	689,854	1,257,770
Total project income	3,350,174	2,971,232

Project expenses

	2020 €	2019 €
FP programmes	98,759	151,355
RTDI programmes	2,561,544	1,637,497
Other programmes	498,942	1,122,379
Total project expenses	3,159,245	2,911,231

Appendix II

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Detailed Results - 31 December 2020**Administrative expenses**

	2020 €	2019 €
Advertising and promotions	113,293	175,417
Amortisation charge	118,633	77,562
Audit fees	3,500	3,500
Bank charges	25,699	12,987
Catering events and hospitality	47,415	67,299
Cleaning	128,649	177,353
Computer and IT expenses	39,132	52,741
Depreciation	1,368,913	1,433,364
Equipment hire	9,006	6,314
General expenses	63,843	67,005
Insurance	44,072	30,436
Internationalisation	190,912	60,000
Legal and professional fees	59,686	131,538
Motor car expenses	7,696	11,219
Printing, postage and stationery	30,606	37,861
Repairs and maintenance	90,868	119,101
Security	15,790	79,739
Staff training	36,797	86,963
Staff uniforms	4,441	7,472
Staff welfare	49,631	45,936
Subscriptions and memberships	47,563	23,586
Telecommunications	36,940	30,469
Travelling and entertainment	15,383	154,564
Wages and salaries	3,918,155	3,423,800
Water and electricity	127,478	127,906
Total administrative expenses	6,594,101	6,444,132

MALTA COUNCIL FOR SCIENCE AND TECHNOLOGY
Detailed Results - 31 December 2020**Other income**

	2020 €	2019 €
Grant income	1,212,842	1,276,922
Other income	57,402	111,810
Agency income	37,508	130,348
Management fees	39,000	103,000
	<u>1,346,752</u>	<u>1,622,080</u>

Investment income

	2020 €	2019 €
Interest income on cash and cash equivalents	<u>948</u>	<u>1,325</u>



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