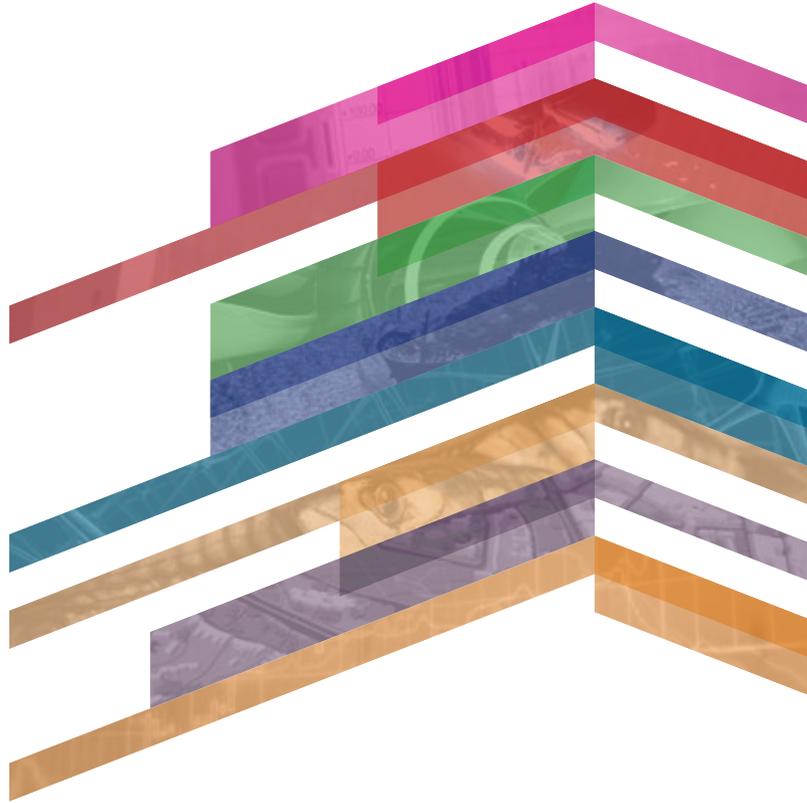




The Malta Council for  
**Science & Technology**



To Raise the Profile & Standard  
of Science, Technology,  
Research & Innovation  
In Malta

Information & Communications Technology  
High Value-added Manufacturing, Processes & Design  
Health, Active Ageing & E-health  
Tourism Product Development  
Resource-Efficient Buildings  
Maritime Services  
Aviation & Aerospace  
Aquaculture

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## Hon. Evarist Bartolo MP

### Minister for Education and Employment

Innovation and Research are two of the main building blocks in any country aiming for sustainable growth and job creation. Malta is no different, and that is why as a Government we are investing highly in these areas to ensure that our country and our people remain successful in a highly demanding era.

In 2014, the Ministry for Education and Employment inaugurated Horizon 2020 in Malta. This is an EU Funding Programme for Research and Innovation, through which researchers and enterprises across Europe can benefit from a budget of around €80 billion over the next 7 years. It is aimed at securing Europe's global competitiveness, the creation of economic growth, jobs and new knowledge.

Through strategies such as the National Research and Innovation Strategy 2020, launched in June 2014, we are aiming to build a comprehensive Research and Innovation (R&I) system, to strengthen the knowledge base, and to achieve smart, flexible specialisation.

We also recently embarked on an EU-funded project to launch Malta's very own Interactive Science Centre: 'ESPLORA', with the aim to attract more students towards science subjects. The project, with an investment of €26 million, will offer one of the best interactive science experiences in Europe, whilst also supporting the National Curriculum Framework, with the aim of increasing uptake of science subjects at Form 3 level.

The work being carried out by The Malta Council for Science & Technology in the areas of research and innovation is pivotal in bringing out the best potential of our people, and that is why we must always ensure that such work is taken on board when devising the educational needs of the country.

*"The work being carried out by The Malta Council for Science & Technology in the areas of research and innovation is pivotal in bringing out the best potential in our people"*



## Hon. Chris Agius MP

### Parliamentary Secretary for Research, Innovation, Youth and Sport

This was another exciting year for the Research and Innovation sector in Malta. The launch of the National R&I Strategy 2020 and its subsequent action plan, which will be launched in 2015, make me confident that, as the years progress, Malta will continue to emerge stronger, more united, more open, more competitive and also more innovative and more forward-looking, thus becoming one of the leading information economies in Europe.

Innovation has a vital role to play in the shaping of our societies of tomorrow. We will continue to build on our core strengths in research, capacity building and creative activities. This investment, which is required to keep us at the forefront, is one of the top Government priorities and cuts across all generations.

ESPLORA will be launched in 2015. This interactive science centre will provide a space where youngsters will be able to develop their skills, knowledge and appreciation of science and technology through hands-on and inquiry-based learning. It is a €26 million project in the south of Malta that will advance the levels of scientific literacy in children by presenting an educative experience in their most palatable forms. In so doing, we hope to support the formal science curriculum with an informal brand of learning and in the process stimulate young people to pursue careers in these fields.

Economic and social maturity require innovation and competitiveness to create jobs and growth across all sectors. Our ability to capitalise on innovation and research will be critical for our future prosperity. We have big opportunities and a great deal of challenges. Government, academia and industry must rise to these challenges by supporting innovation and the transformation of cutting edge research into commercial activities in all areas. This will not only create new jobs and transform our businesses into innovative ones but also enable our country to take the lead in new and emerging markets.

Since the launch of the Strategy, we have been working towards the creation of a climate for innovation which encourages companies and new knowledge. The future for The Malta Council for Science and Technology will be challenging but hugely important. I am proud of what the organisation has achieved over the past years, and am extremely excited about what lies ahead.

*"Our economic and social maturity requires innovation and competitiveness to create jobs and growth across all sectors."*



## Dr. Jeffrey Pullicino Orlando

### Executive Chairman

2014 has been another busy year for the Malta Council for Science and Technology. This annual report takes stock of the events and efforts of 2014 whilst looking ahead to the challenges of 2015. It highlights the broad range of projects that the Council has undertaken throughout the year in order to continue fulfilling its responsibilities.

The Council's Strategy and Policy team has been heavily focused on the drafting of the National Research and Innovation Strategy 2020, which was approved by Cabinet and launched in June 2014. Together with the Ministry for Education and Employment, its implementation shall be achieved through the development of the R&I Action Plan.

Throughout 2014, the Internationalisation team focused their efforts on three main areas namely; the review of internationalisation activities carried out in the previous two years, the adoption of Council Conclusions on the PRIMA Initiative, and the launch of the European Institute for Innovation and Technology (EIT) call for a Knowledge and Innovation Community in Healthy Living and Active Ageing (KIC HLA).

The latter call was launched in February and the proposal was submitted in September 2014. The Malta Council for Science and Technology worked closely with the leader of the consortium, Leuphana University in Luneburg, Germany. During 2014, The Malta Council for Science and Technology provided input to the development of the 2014 National

Reform Programme for the achievement of the EU2020 objectives, and has been actively engaged in the drafting of the European Research Area (ERA) Roadmap. In addition, the Council has taken part in the European Research and Innovation policy-making activities, mainly at the Research and Space Working Parties COREPER I, and the Ministerial Competitiveness Council.

The Research and Innovation unit at The Malta Council for Science and Technology has been heavily focused on the Commercialisation Voucher and Technology Development Programmes, ensuring that funds are spent on project proposals having a high potential of making it to the market. The proposals targeted five key areas, namely: ICT, Energy and Environment, Value-Added Manufacturing, Aviation and Aerospace, and Health and Biotechnology.

In 2014, the unit also managed the European Cooperation in Science and Technology (COST), an intergovernmental framework that facilitates the coordination of nationally-funded research on a European level with more than 300 researchers in Malta benefiting from COST participation.

The Malta Council for Science and Technology is also a partner in ARIMNet 2, which supports collaborative interdisciplinary projects based on complementarities between scientists, disciplines and countries.

The Malta Council for Science and Technology is a partner and the local managing authority for ERANETMED, a project aiming to enhance Euro-Mediterranean co-ownership through innovation and competitive research in the societal challenges faced by the region. In addition, the Council is a partner in MED-SPRING, which focuses on Euro-Mediterranean policy addressing societal changes, namely: energy, high quality affordable food, and scarcity of resources. The Council is also the managing authority for Pilot Line, a Lab4MEMS project aiming to reinforce the manufacturing facilities currently located in each participating country, as well as implementing and optimising industrial processes and validating the supply chains that are suitable to penetrate the market.

The Council is the National Contact Organisation for the European Space Agency (ESA) and has represented national interests through Malta's Observer status in order to assess the space market and identify possible avenues for collaboration. In addition, in November 2014 The Malta Council for Science and Technology became a member of Eurisy, an association of space agencies focusing on satellite applications, and we shall be hosting an international conference on Geospatial Services for Small Island Economies towards the end of 2015.

In July 2014, a Memorandum of Understanding on a Medium-Term Cooperation Plan (2014-2019) was signed by the Governments of Malta and China. The Malta Council for Science and Technology and the Chinese Ministry of Science and Technology (MoST) are the designated implementing agencies for cooperation in this area. In addition, the Joint Commission for Science and Technology shall be holding its first ever session in Malta during 2015.

The Malta Council for Science and Technology has also undertaken the initiative to develop a national research portal that will serve as a platform for knowledge sharing and networking, while showcasing Malta's Research and Innovation talent. The Council has also coordinated PRI-SCI-NET, an FP7 project bringing together 17 European partners to promote inquiry-based learning in science at primary level and PLACES network project, developing a common platform for a wide and diverse community of actors to promote cooperation in science communication activities.

Additionally, the Council has joined a Consortium led by Malta Enterprise, together with the Malta Chamber of Commerce, Enterprise and Industry, and the Malta Business Bureau, to submit a proposal entitled Maltese-European Linkages for Internationalisation, Innovation and Technology Transfer (MELIITA) under a COSME and a Horizon 2020 call, to represent the Enterprise Europe Network (EEN) in Malta over the next seven years.

Malta's first Interactive Science Centre, ESPLORA, was officially launched in December 2014. Construction and restoration works on ESPLORA are progressing steadily and also imparting a pleasing outline to the Kalkara peninsula. The Science Popularisation team at The Malta Council for Science and Technology is working on obtaining unique exhibits as well as defining the marketing and operational plans amongst others.

This annual report showcases our team's efforts. Our work would simply not be possible without the continuous support received from the Ministry for Education and Employment as well as from the Parliamentary Secretariat for Research, Innovation, Youth and Sport, along with their staff. They have all contributed to the Council's ongoing success, with results that speak for themselves.

# Board of Directors



Dr. Jeffrey Pullicino Orlando  
Executive Chairman



Prof. Alfred J Vella



Prof. Emmanuel Sinagra



Prof. Janet Mifsud



Prof. Maurice Grech



Dr. Ivan Gatt



Dr. Karen Mugliett



Ms. Claudine Cassar



Dr. David Degabriele



Dr. Vincent Maione



Dr. Ing. John C Betts



Dr. Kristian Zarb Adami



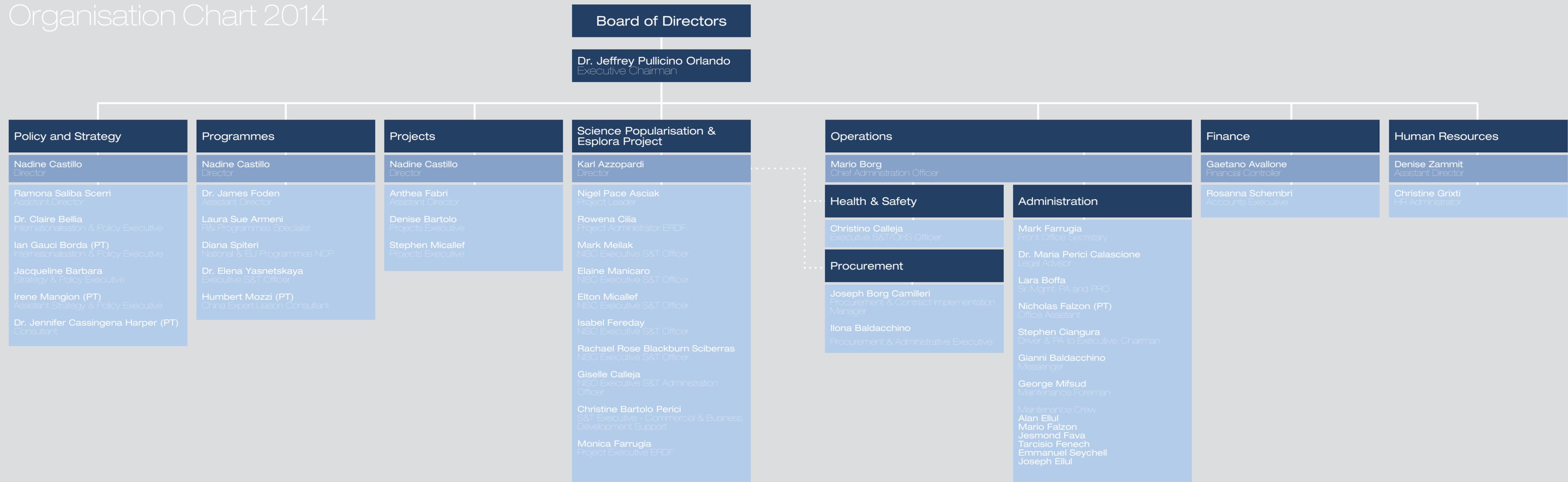
Mr. Robert Falzon



Dr. Vince Micallef  
Board Secretary

Vice Chairman, Prof. Richard Muscat, was not available at the time of the photo shoot.

# Organisation Chart 2014



# Policy, Strategy and Internationalisation Unit

Director  
Ms. Nadine Castillo

Assistant Director  
Ms. Ramona Saliba Scerri

The main function of the Policy, Strategy and Internationalisation team is to provide advice to Government on matters relating to research and innovation both at a national and a European level. The team is responsible for championing the implementation of the National Research and Innovation Strategy 2020, and ensuring that the principles of the Strategy are mirrored in other national policies and strategies to ensure a coordinated approach to policy making across Government.

In championing the Strategy's implementation, the team acts as a catalyst to bring together different entities working on related issues to ensure open dialogue, information exchange and, where possible, cooperation. The team also represents Government in numerous EU-level forums and provides support and advice, throughout the process of the development of a national position on EU matters, concerning research and innovation policy, and throughout the whole negotiation process at EU level.

## The Development of a National Research and Innovation Action Plan

The National Research and Innovation Strategy 2020 was approved by Cabinet and launched in June 2014. The strategy aims to achieve three over-arching pillars; to build a comprehensive Research and Innovation (R&I) system, to strengthen the knowledge base, and to achieve smart, flexible specialisation.

The implementation of the strategy shall be achieved through the development of a rolling R&I Action Plan. The Unit was very focused on fulfilling this goal throughout 2014. This complementary document will identify specific measures to address the action lines in each of the three pillars of the new Strategy. The Action Plan, like the Strategy, is championed by The Malta Council for Science and Technology but is a national document that depends on the involvement of all entities and stakeholders, to reduce the current fragmentation in R&I and identify synergies. To achieve this, in 2014 the Unit has held extensive consultations and bilateral meetings with all Ministries and entities to identify measures that will assist the implementation of the Strategy.

Following an initial mapping process, and with the help of our line ministry, two very important groups that will steer, coordinate and co-design the Action Plan were set up. The two groups are the Steering Group and the Core Group. The Steering Group is made up of Heads of Public Entities and Organisations and is responsible for coordinating the proposed

measures and proposing priorities for funding for the Core Group's decision. The Core Group, which meets at Permanent Secretary Level and also includes Parliamentary Secretary, Hon. Chris Agius, is responsible for deciding on priorities for action as well as timeframes, resources and budgets on the basis of recommendations made by the Steering Group. The Unit is aiming to launch the Action Plan in 2015 and through this document, contribute to the achievement of the 2020 targets proposed in the Strategy, including the Research and Development (R&D) target of 2% of GDP.

## Developments

During 2014, the Unit provided its input and advice to the development of the 2014 National Reform Programme for the achievement of the EU2020 objectives, and provided regular updates to the implementation of measures listed. The Malta Council for Science and Technology has also participated and supported the development of the European Research Area (ERA) and worked towards achieving the five ERA priorities. One important development in 2014 was the drafting of the ERA Roadmap, whereby the Unit represented Malta in related discussions within several EU level fora that included the European Research Area and Innovation Committee.

The Unit has also started organising biannual meetings with all Maltese delegates to ERA-related groups. These informal meetings were found to be very useful since several cross-cutting issues are discussed in multiple groups and this ensures a unified position on similar issues.

The Unit also continued supporting Malta's participation in European R&I policy-making, mainly at the Research and Space Working Parties, COREPER I and the Ministerial Competitiveness Council. In 2014, the main achievement was the adoption of Council Conclusions related to: R&I as sources for renewed growth; underpinning the European space renaissance; the ERA Progress Report 2014 and the Partnership for R&I in the Mediterranean Area. The Unit has also coordinated the Council's input to policy issues and strategies led by other entities which overlap with The Malta Council for Science and Technology's remit to ensure a synergistic approach in strategy and policy development at national level and strengthen Malta's position.

## Internationalisation Developments

Throughout 2014, the Internationalisation team focused their efforts on 3 main areas. The first priority for the team was undertaking a review of internationalisation activities undertaken in the previous 2 years. This was the culmination of a scoping exercise that was initiated in 2012 with the aim of exploring how major EU-level research and innovation cooperation initiatives work in practice. Being that international cooperation outside the EU is currently still in its infancy, the review was dedicated to Malta's involvement in those activities that are taking place within the EU landscape. In order to ensure the broadest understanding possible, consultations were carried out with a variety of stakeholders including delegates nominated to follow these initiatives, private and public organisations, Ministries, and researchers. These consultations were supplemented with information provided through a questionnaire and a workshop carried out in the summer of 2014. The review presented the opportunities and challenges associated with participation in current EU initiatives and also provided strategic direction for pursuing future initiatives. Finally, the review also presented a number of measures that should be put in place in order to maximise the potential of participation in internationalisation initiatives. Following approval by the The Malta Council for Science and Technology Board, these measures will feed into the National R&I Action Plan being developed by the Unit.

The second important event for the internationalisation team in 2014 was the launch of the European Institute for Innovation and Technology (EIT) call for a Knowledge and Innovation Communities in Healthy Living and Active Ageing (KIC HLAA). This call was launched in February 2014, with a deadline in September. Malta, through the Malta Council for Science and Technology, had been consistently working with a consortium led by Leuphana University in Luneburg, Germany, since 2013, and was involved in the preparation of the proposal that would be submitted in response to the KIC HLAA call. Throughout 2014, most of the work focused on ensuring that The Malta Council for Science and Technology, as a close coordinating partner, produced any necessary documentation that would be needed to finalise the proposal, attended consortium meetings, hosted German delegation visits to Malta, and provided the necessary policy-related support

at a National and EU-level. Following submission of the KIC HLAA proposal in September, 2014, a handover of the initiative was given to the Project Implementation Unit. In 2014, The Malta Council for Science and Technology also participated in a proposal submitted by another consortium under the call for a Knowledge and Innovation Community on Raw Materials. This consortium incorporated a group of local private and public stakeholders, with The Malta Council for Science and Technology playing a supportive as opposed to a leading one.

The third important development of 2014 was the adoption of Council Conclusions on the PRIMA Initiative. PRIMA, or 'Partnership in Research and Innovation in the Mediterranean Area', is a Euro-Mediterranean initiative that aims to create a longstanding partnership between EU and Mediterranean Partner Countries to collaborate on research and innovation activities, in line with the principles of co-ownership, mutual interest, shared benefits and building on the multiple bilateral and multilateral research and innovation activities in the region. The internationalisation team has played an active role in supporting this initiative, both at a technical and a political level. The adoption of Council Conclusions is a landmark for the initiative, as it means that the Commission will now commence its own procedures for PRIMA's possible launch under Article 185 of the Treaty for the Functioning of the European Union. This instrument would create a more permanent collaboration between member states and countries in the Mediterranean region to address common challenges and achieve mutual benefits. PRIMA is expected to replace and build on the existing ERANET-MED and ARIMNET II projects, both of which have been supported by The Malta Council for Science and Technology in 2014. Indeed, these ERANET projects currently serve as 'pilots' to test the potential for calls addressing Mediterranean challenges to successfully engage stakeholders in the region, including Maltese researchers.

PRIMA will address topics relating to food systems and water resources, touching on several other thematic areas including health, climate change, energy, biodiversity, coastal sea management and agriculture. A programme for the PRIMA initiative was presented to the Commission for its consideration

at the end of 2014 and the initiative itself is expected to be launched during Malta's Presidency in 2017.

Apart from these three important areas, the internationalisation team also continued to monitor developments and disseminate information on a number of EU initiatives throughout 2014. These included the European innovation partnerships, joint programming initiatives, joint undertakings, Article 185 initiatives, and research infrastructures. The Malta Council for Science and Technology attended conferences and meetings organised by these initiatives, or supported delegates to do so. The internationalisation team also continued to follow up on policy developments related to transnational cooperation within dedicated groups at EU-level, most notably the 'Groupe De Haut Niveau Pour La Programmation Conjointe' (GPC) and the Strategic Forum on International Cooperation (SFIC).

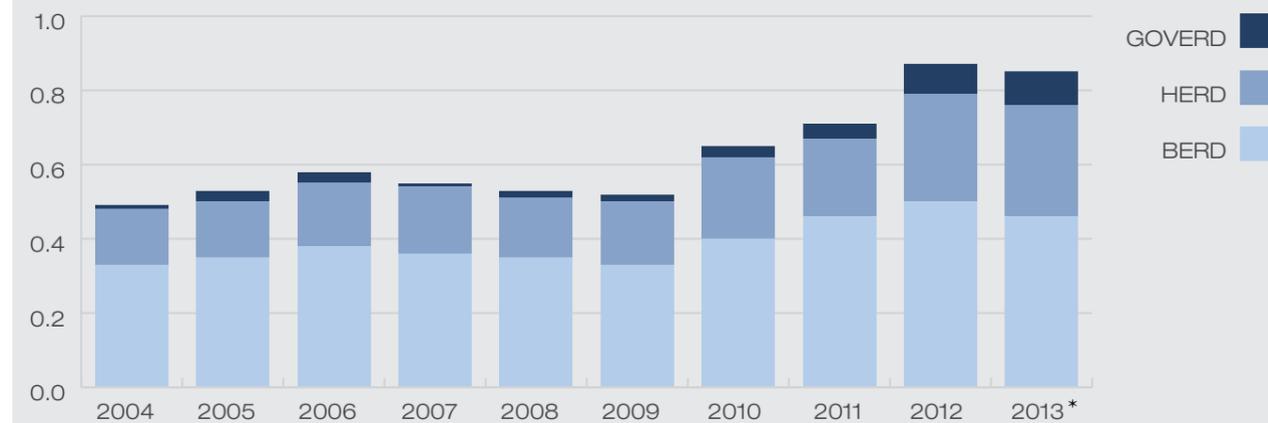
Throughout 2014, The Malta Council for Science and Technology continued its collaboration with the University of Malta, the French Embassy, and the French National Centre for Scientific Research (CNRS) in supporting 4 students to undertake short-term research placements at French institutions. The internationalisation team also provided support to the development of a traineeship for a Maltese researcher with the European Space Agency.

## Analysis and Monitoring

Following the positive outcomes of the previous years, the Policy, Strategy and Internationalisation Unit supported the National Statistics Office in undertaking the Research and Development Questionnaire, 2013. The Council trained and assigned companies to a group of assistant researchers to assist them in identifying and reporting R&D expenditure accurately. The relevant provisional data is now available on EUROSTAT for 2013. This indicates that the R&D expenditure has reached 0.85% of GDP, implying that it has remained stable since 2012, following an increase in expenditure since 2010. The Figure below illustrates the latest figures for R&D expenditure in Malta by its different expenditure components: higher education (HERD), business (BERD) and government (GOVERD).

The Figure to the right shows the R&D expenditure trends over the period 2004 – 2013, almost 10 years. The Gross R&D expenditure as a percentage of GDP remained largely stable over the 2004 – 2009 period, averaging around 0.55%, but has been steadily increasing from 2010 – 2012, and currently stabilising at 0.85% (provisional data for 2013). This increase in R&D expenditure since 2010 is largely due to capital and recurrent expenditure increases in the higher education sector, as well as improved data collection methodologies. Business expenditure, which accounts for roughly two thirds of the total R&D expenditure, and public sector expenditure, has also increased in the past three years. Through the launch of the new National R&I Strategy, and its implementation through the R&I Action Plan, it is expected that R&D expenditure will continue to increase with the aim of reaching the 2% R&D target by 2020.

R&D Expenditure as a percentage of Gross Domestic Product (GDP)



\*Provisional data available on EUROSTAT.

# Research and Innovation Programmes Unit

Director  
Ms. Nadine Castillo

Assistant Director  
Dr. James Foden

The Research and Innovation (R&I) Programmes Unit primarily manages and operates programmes that provide a vehicle for industrial and academic applied research, with the aim of it resulting in commercialisation and a positive financial impact on the local economy.

Since 2013, following the launch of FUSION, the unit has run a Commercialisation Voucher programme that supports the assessment of the commercialisation feasibility of ideas prior to the actual undertaking of any research and development. This approach ensures that research funds are spent on technology proposals which have the greatest potential of making it to the market and which have a multiplier effect on the overall local economy. Following the successful completion of the Commercialisation Voucher Programme, researchers have the opportunity to apply for research funds under the Technology Development Programme. Since the launch of the National Research and Innovation Strategy 2020, in mid-2014, FUSION has adopted a business driven approach that is aligned to the identified SMART Specialisation Areas.

In 2014, the unit also managed COST, JRC, ENIAC and EUROMED projects. Furthermore, it was responsible for supporting proposals from entities, being academic institutions or enterprises, to join foreign consortia to undertake large-scale multi-national research activities. The Unit also continued to progress on previous efforts with the European Space Agency (ESA), EURISY and others.

## The R&I Programme – FUSION Commercialisation Voucher Programme and Technology Development Programme

The Commercialisation Voucher Programme is aimed at improving the development and commercialisation potential of innovative research ideas. The Programme was launched in October 2013 as the precursor to the Technology Development Programme. Following a scientific opinion evaluation by independent experts, a total of 12 FUSION Commercialisation Voucher Programme projects were successfully funded through an open call. These proceeded through 2014 requesting a total of €216,000. These proposals targeted 5 key areas: ICT, Energy & Environment, Value-Added Manufacturing, Aviation & Aerospace and Health & Biotechnology. The following table portrays a breakdown of submissions.

Owing to the commencement of Technology Development projects relying on the completion of projects under the Commercialisation Voucher Programme, there were no new Technology Development projects in 2014. However, a number of projects are expected to apply for this programme within 2015.

Between 2004 and 2014 inclusive, 73 proposals were accepted for funding, requesting a total commitment of approximately €9 million. A comprehensive list of these projects, indicating their progress and status, is provided in the subsequent pages. There were no calls in 2005 and 2007.

Shortlisted proposals by sector	Number of proposals	Percentage of total submission
ICT	1	8 %
Energy & Environment	4	33 %
Value-Added Manufacturing	4	33 %
Health & Biotechnology	2	17 %
Aviation & Aerospace	1	8 %

R&I Projects 2004 - 5			
Project No.	Project Name	Stage	Contact Person
RTDI-2004-005	High Temperature Air Combustion	Complete	Prof Robert Ghirlando, UoM
RTDI-2004-008	Tackling the Image of Scientists	Complete	Dr. Suzanne Gatt, UoM
RTDI-2004-012	Identification of Genetic Factors Contributing to Coeliac Disease in the Maltese Population - COELIGENE	Complete	Dr. Christian A.Scerri, UoM
RTDI-2004-017	Transcriptional Regulation and Promoter Genetic Variation of the Chemokine Receptor 4 (CCR4) gene with special Pharmacogenetic relevance to novel therapeutic targets in asthma	Complete	Dr. Anthony Fenech, UoM
RTDI-2004-022	Construction, Operation and Benchmarking of a New Form of Shrimp Aquaculture System - Intensive Vertical Shrimp Culture	Terminated	Mr. Shane Hunter, Aquabiotech Innova Limited
RTDI-2004-026	Computational Intelligence Techniques for Control of Complex Systems	Complete	Dr. Simon G Fabri, UoM
RTDI-2004-033	Modelling of Materials with Unusual Mechanical and Thermal Properties	Complete	Dr. Joseph N.Grima, UoM
RTDI-2004-034	3DHead - Low Cost Rapid 3D Head Acquisition	Complete	Mr. Thomas Galea, UoM
RTDI-2004-039	Content Based Multimedia Retrieval with Ordered Relevance Feedback	Complete	Dr. Victor Buttigieg,UoM
RTDI-2004-054	Dealing with Female Victims of Domestic Violence: An Evaluation of Services in Malta/Gozo and the Provence of Trapani (Sicily)	Complete	Dr. Sandra Scicluna, UoM
RTDI-2004-061	Purchase of Real Time PCR Equipment	Complete	Dr. Christian A.Scerri UoM
RTDI-2004-072	The Design of a series of non-steroidal oestrogen and androgen receptor antagonists	Complete	Ms. Claire Zerafa, UoM
RTDI-2004-074	Screening of Maltese Medicinal and Aromatic Plants for Pharmacological Activity	Complete	Dr. Everaldo Attard UoM
RTDI-2004-082	Maltese Language Server (MLRS)	Complete	Mr. Michael Rosner,UoM

R&I Projects 2006			
Project No.	Project Name	Stage	Contact Person
R&I-2006-006	Application of copper carbon nanofibre composites in the thermal management of solid state relays and power modules	Complete	Ing. Michael Attard, IMA Engineering Services
R&I-2006-009	Development of an Innovative Wastewater Recycling Process for Hotels / Large Commercial Buildings / Isolated Communities for environmental protection and cost recovery	Complete	Ing. Marco Cremona, Sustech Consulting
R&I-2006-015	Modular Intravenous Set	Terminated	Mr. Emerson Mulvaney, Baxter Ltd
R&I-2006-026	Bio-Structor: a portable software tool for biological visualization	Complete	Mr. Joe Sultana, Ascent Software Ltd
R&I-2006-027	Desalination of Sea/Brackish Water by Decentralized Solar Energy Units	Complete	Dr. Stephen Abela,UoM
R&I-2006-045	A rationalisation of industrial automation requirements and service provision in Malta, with a focus on the development of new modular reconfigurable industrial automation systems	Complete	Dr. Ing. Michael Saliba, UoM
R&I-2006-046	Intelligent Design and Manufacture of Micro-Parts for Biomedical Applications: Case Study – The development of a laparoscopic surgery tool	Complete	Dr. Ing. Jonathan C. Borg, UoM

R&I Projects 2008			
Project No.	Project Name	Stage	Contact Person
R&I-2008-006	Inflammation Atherosclerosis and Myocardial infarction in the Maltese population	Complete	Dr. Stephanie Bezzina Wettinger, UoM
R&I-2008-025	PINATA - Pervasive Nursing and doctoral Assistant	Complete	Dr. Alexiei Dingli, UoM
R&I-2008-026	Solar Hot Water controller so as to automatically control the use of electrical energy through the use of back-up heater in inclement weather, thereby reducing energy consumption and CO2 release	Terminated	Mr. Michael Bonello, Remote Monitoring Control Systems Ltd.
R&I-2008-037	Manufacture, modelling and testing of foams, with particular emphasis on a new manufacturing method for the production of 'value-added' auxetic foams	Complete	Prof. Joseph Grima, UoM
R&I-2008-052	Dependability and Error-Recovery in Security Intensive Financial Systems	Complete	Dr. Gordon J. Pace, UoM
R&I-2008-059	Increasing the yield in the production of slow release pellets in the manufacture of tablets and capsules	Complete	Dr. Lilian M.Azzopardi, UoM
R&I-2008-068	Identification of Neuroprotectants from terrestrial and marine plant extracts in neurodegenerative disorders of the amyloid type	Complete	Dr. Neville Vassallo, UoM
R&I 2008-001	Valorising of the indigenous vine varieties of Malta: Conservation, Assessment and Innovation	Terminated	Ms. Claudette Gambin, MRRA

R&I Projects 2009			
Project No.	Project Name	Stage	Contact Person
R&I-2009-003	Design and Analysis of an Innovative Offshore Wind Turbine Support Structure for Deep Water Applications in the Maltese Islands	Complete	Dr. Tonio Sant, UoM
R&I-2009-010	Innovative Fibre Reinforced Composites Designed for Higher Structural Performance	Complete	Dr. Ing. Duncan Camilleri, UoM
R&I-2009-019	Investigation of chaperone modulators as regulators of diabetes, cancer and stem cell expansion.	Complete	Mr. Charles Saliba, ICP

R&I Projects 2010			
Project No.	Project Name	Stage	Contact Person
R&I-2010-019	The Development of an Integrated Personal Mobility Device	Complete	Ing. Vince Maione, MCAST
R&I-2010-024	Converting wave energy into electrical energy - focusing on Mediterranean region and climate	Complete	Mr. Noel Gauci, Dexawave Energy Malta Ltd
R&I-2010-025	Investigation of Advanced Metal – Diamond Composites for Thermal Management Applications	Complete	Ing.Michael Attard, Managing Director, IMA Engineering Services Ltd
R&I-2010-030	Molecular Characterization and Authentication of Maltese Honey	Intermediate	Dr. Everaldo Attard, UoM
R&I-2010-038	No-discharge Energy-efficient Prototype for Treatment of Urban Municipal Effluent (for water self-sufficiency in Public Gardens)	Intermediate	Mr. Alberto Miceli Farrugia, Architecture Project Ltd

R&I Projects 2011			
Project No.	Project Name	Stage	Contact Person
R&I-2011-002	Fabrication of advanced hybrid composite sandwich panels – testing & simulation	Complete	Dr. Claire De Marco, UoM
R&I-2011-010	Digital Gaming Clouds for Mobile Users	Final	Dr. Ing. Saviour Zammit, UoM
R&I-2011-011	Development of a family of Augmented Lift - Self Adjusting - Vertical Axis Wind Turbines (VAWT) for urban wind context	Complete	Ing. Ryan Xuereb, Econetique Ltd
R&I-2011-018	MARine LOGging Notebook	Terminated	Analiza Abdilla, S-TECH Ltd
R&I-2011-019	Realtime Portable Reconfigurable Power Management Interoperable System	Terminated	Analiza Abdilla, S-TECH Ltd
R&I-2011-021	Cleaner flight operations in departure and approach in Maltese Airspace	Complete	Ing. Kenneth Chircop,UoM
R&I-2011-022	Research on the use of infiltration boreholes for flood mitigation and to enhance groundwater recharge	Complete	Ing. Marco Cremona, Sustech Consulting
R&I-2011-024	Stent – manufacture, architecture, research, treatment	Complete	Prof. Joseph N. Grima, UoM

R&I Projects 2012			
Project No.	Project Name	Stage	Contact Person
R&I-2012-002	Exploiting Multi-Material Micro Injection Moulding for Enhancing Manufacturing Competitiveness	Intermediate	Dr. Philip Farrugia, UoM
R&I-2012-024	"Harnessing and Maximising the Potential of Next Generation Sequencing Technology "	Intermediate	Dr. Stephanie Bezzina Wettinger, UoM
R&I-2012-041	Innovative photovoltaics on water (SolAqua)	Intermediate	Prof. Luciano Mule Stagno, UoM
R&I-2012-057	Robust, Cost-effective Eye Gaze Technology for Assisted Communication	Intermediate	Prof Kenneth P.Camilleri, UoM
R&I-2012-058	Development of a Hollow Concrete Block with improved thermal properties, having same dimensions and load bearing characteristics as the traditional HCB.	Intermediate	Mr. Charlon Grima, Galeacurmi Engineering Consultants Ltd
R&I-2012-061	Improved Meshing Designs for Skin Grafting	Intermediate	Dr. Ruben Cauchi, UoM
R&I-2012-065	Advanced flight guidance and management using emerging interactive display technologies	Final	Prof. Ing. David Zammit Mangion, UoM
R&I-2012-066	In Vivo Drug Discovery targeting Mitochondria in animal models of Alzheimer's Disease, Parkinson's Disease and Diabetes Mellitus	Intermediate	Dr. Ruben Cauchi, UoM

R&I Projects 2013			
Project No.	Project Name	Stage	Contact Person
R&I-2013-008	Generating Online Monitors from Tests Automatically	Feasibility Study	Dr. Christian Colombo, Mr. Adrian Mizzi, UoM
R&I-2013-014	Closed-loop Serotonin Optogenetic Stimulation with EEG recording to Suppress Epileptic Seizures: A Therapeutic Device	Feasibility Study	Prof Giuseppe Di Giovanni, , UoM
R&I-2013-023	Offshore Passive Photovoltaics	Feasibility Study	Ing. Ray Vassallo, MCAST
R&I-2013-025	CLEAN-FLIGHT 2	Feasibility Study	Ing. Kenneth Chircop, UoM
R&I-2013-028	Thermal Imaging for Peripheral Vascular Disease Monitoring in Diabetics	Feasibility Study	Dr. Owen Falzon, UoM
R&I-2013-039	Development of a framework to put human-machine interfaces (HMI) in the cloud	Feasibility Study	Mr. Christopher Spiteri, Ateknea Ltd.
R&I-2013-041	Malta Human Genome Project	Feasibility Study	Prof. Alex Felice, UoM
R&I-2013-042	Situation Awareness and Guidance for RPAS Operations	Grant Agreement being negotiated	Mr. Roger Archer, Hawk Airspace Ltd.

Commercialisation Voucher Programme 2014				
Voucher Number	Title of Project	Client Name	Organisation	Status
R&I-2014-001	Development of medical device based on Maltese honey	Mr. Ray Sciberras	Golden Island, Melissa Research Institute Ltd	Fusion Commercialisation Voucher Stage
R&I-2014-002	Intelligent waste to water and energy - Malta	Mr. Noel Gauci	MCAST	Fusion Commercialisation Voucher Stage
R&I-2014-003	HOTER	Dr. Ing. Marco Cremona	Sustech Consulting Ltd.	Fusion Commercialisation Voucher Stage
R&I-2014-005	A New Type of Rotary Four Stroke Internal Combustion Engine	Mr. Joseph Paul Portelli	Skoperta Ltd	Exited
R&I-2014-008	A Novel Liquid Medication Administration Device	Mr. Luke Satariano	MCL Components Limited	Exited
R&I-2014-018	'Sun Capture' project	Mr. Albert Zerafa	Sea Island Projects Ltd	Exited
R&I-2014-019	Aquatic Tracking System	Mr. Edward Borg	Vreite Ltd.	Fusion Commercialisation Voucher Stage
R&I-2014-024	OPPV Project	Mr. Ray Vassallo	MCAST	Fusion Commercialisation Voucher Stage
R&I-2014-025	Scanstation	Mr. Harold Felice	Avantech Ltd	Fusion Commercialisation Voucher Stage
R&I-2014-026	Re-Solve	Dr. Stefan Mohnani	Universal Import and Export Limited	Fusion Commercialisation Voucher Stage
R&I-2014-027	Innovled	Mr. Mathew Spiteri	Altern Ltd	Fusion Commercialisation Voucher Stage
R&I-2014-028	Antenna	Dr. Kristian Zarb Adami	UoM	Fusion Commercialisation Voucher Stage

## ARIMNet2 – Coordination of Agricultural Research in the Mediterranean Area

Mediterranean countries face common problems in agriculture and food security, and such issues need to be identified and addressed through a stronger scientific cooperation between countries in the Mediterranean area.

The ARIMNet2 project is a network of funding organisations and national research institutions that promote the coordination of national research activities and identify joint research programmes to fight fragmentation and exploit synergies. The Malta Council for Science and Technology is a partner in this project together with another 23 partners from Northern, Southern and Eastern Mediterranean countries. It supports collaborative interdisciplinary projects based on complementarities between scientists, disciplines and countries. ARIMNet2 also identifies scientific priorities for researchers to work on a variety of transnational research projects that contribute to address societal challenges related to food, rural development, water and natural resources that Mediterranean countries are facing today.

ARIMNet2 is an ERA-NET project that is funded by the 7th Framework Programme (FP7) and will run from 2014 to 2017.

## ERA-NET-MED – Euro-Mediterranean Cooperation through ERA-NET Joint Activities and beyond

ERA-NET-MED aims to enhance Euro-Mediterranean co-ownership through innovation and competitive research in the societal challenges faced by the region. The project works to reduce the fragmentation of programming by increasing coordination among national research programmes of European Member States, Associated Countries and Mediterranean Partner Countries (MPCs). This project is also seen as a prelude to a longer and more stable cooperation among Mediterranean partners. The Malta Council for Science and Technology is a partner together with another 22 Mediterranean partners and acts as the local Managing Authority, after having actively participated in the 1st Joint Call launched in November 2014 with a budget of €400,000.

ERA-NET-MED goals include:

- Establishing a framework for communication and coordination of programme owners and managers related to science and technology cooperation from Europe and Mediterranean Partner Countries;
- Strengthening the Euro-Mediterranean Research and Innovation cooperation and promoting joint activities;
- Developing joint funding schemes and procedures between partners;
- Supporting long-term and stable Euro-Mediterranean cooperation;
- Strengthening MCPs capacities to enhance research and innovation and increase the impact of research on the socio-economic development of the region.

## MED-SPRING - Mediterranean Science, Policy, Research & Innovation Gateway

MED-SPRING focuses on Euro-Mediterranean policy and addresses addressing three societal challenges: Energy, High Quality Affordable Food, and Scarcity of Resources. It tackles policy objectives by creating a dialogue and coordination platform of governmental institutions, research organisations, associations and civil society. It also addresses capacity-building and a continuous analysis of societal challenges to increase research capacity, shared knowledge and cooperation in common areas of interest. The project supports synergies and networking to strengthen joint activities and cooperation in EU programmes, and monitors regional Research and Technological Development (RTD) cooperation and policies. It is financed by the 7th Framework Programme (FP7) and involves 28 Mediterranean partners, including The Malta Council for Science and Technology. MED-SPRING brings together expert scientists, policy makers and stakeholders, bridging policy and research.

The principal objectives of MED-SPRING are:

- To develop and support the dialogue between EU – MPCs;
- To set up Science & Technology priorities and
- To support capacity building activities and enhance the interaction between different cooperation instruments.

## Lab4MEMS

Lab4MEMS is a Research and Development (R&D) project funded by the European Community under the ENIAC Nanoelectronics Framework. It aims to establish a European Pilot Line for key enabling technologies on advanced piezoelectric and magnetic materials, including advanced 3D Packaging technologies.

The Pilot Line aims to reinforce the manufacturing facilities currently located in each respective participating country, as well as implement and optimise industrial processes and validate the supply chains and demonstrators that are suitable to penetrate the market. The main industrial Pilot Line is located in STMicroelectronics in Italy and Malta and is well supported by R&D Centres such as the University of Malta, SMEs and Research Labs distributed among the 9 European countries of the consortia. This streams the whole manufacturing chain from front-end to back-end. The project started in January 2013 and will run for 30 months. The Malta Council for Science and Technology is the Managing Authority and disburses National Funds to support this Project.

## Space and Related Technologies

Following the Cooperation Agreement which Malta signed with the European Space Agency (ESA) on 20th February 2012, The Malta Council for Science and Technology maintained an active attendance to ESA Council meetings and other fora as the National Contact Organisation for ESA. The Council also represents national interests through Malta's Observer status with ESA. Through its motivation to pursue relevant opportunities with ESA, The Malta Council for Science and Technology secured and co-financed an ESA-sponsored course on Synthetic Aperture Radar (SAR). Lecturers from ESA and foreign universities provided an intensive week-long course covering SAR theory, polarimetry/interferometry, vegetation applications, land cover mapping, GIS/GPS integration, marine applications and archaeology applications. Various data acquisition and manipulation, mapping and interpretation practical workshops were also conducted. The course was open to the public and was well attended by various public sector entities, academia and private researchers and SME's. The Council also issued an open call for applications for a one-year ESA Trainee placement. Following an interview process, a candidate was selected for sponsorship. The candidate will be based in the Netherlands.

In November 2014, The Malta Council for Science and Technology became a Member of Eurisy. This is an association of space agencies focusing on satellite applications. The move follows on from the local interest in earth observation and communication technologies, as well as the opportunities these present to our islands. The Malta Council for Science and Technology will take an active role in participation with Eurisy to learn from and establish links with foreign entities that are already well-established in the sector. Moreover, the Council will host an international conference on Geospatial Services for Small Island Economies international conference towards the end of 2015.

## Engagement with other countries on Research and Innovation

The Governments of Malta and China agreed in a Memorandum of Understanding on a Medium-Term Cooperation Plan (2014-2019) signed in July 2014, to activate the bilateral 2002 Agreement on Scientific and Technological Cooperation, as well as the Joint Commission for Science and Technology envisaged therein. The Malta Council for Science and Technology and the Chinese Ministry of Science and Technology (MoST) are the designated implementing agencies for cooperation in this area. With the assistance of the Embassy of Malta in Beijing, the Council held a number of meetings with MoST, during which it was agreed that the Joint Commission would hold its first ever session in Malta during 2015, and the two sides exchanged views on future collaborative projects in R&I including the possibility of joint research centres in specific fields. The Malta Council for Science and Technology was also represented by the Embassy of Malta in Beijing during a number of presentations organised by the Delegation of the European Union to China and Mongolia, and also participated in a multi-city "EU Tour of China" that showcased the wide array of R&I opportunities available in EU Member States including Malta.

Furthermore, Malta hosted the 22nd Conference on Composites/Nano-Engineering involving highly acclaimed Chinese researchers. The Malta Council for Science and Technology supported the event through a presentation and a networking session. This resulted in the eventual negotiation of a Memorandum of Understanding (MoU) with the Harbin Institute of Technology. This MoU will provide a mechanism for the discussion of potential projects relating to advanced materials, composites and nano materials in industry and academia in 2015.

## COST

COST, European Cooperation in Science and Technology, is an intergovernmental framework for European Cooperation in Science and Technology that facilitates the coordination of nationally-funded research on a European level. The programme contributes to strengthening Europe's research and innovation capacities by connecting high-quality scientific communities in Europe and worldwide, providing networking opportunities for Early Stage Researchers (ESR) and increasing research impact on policy makers, regulatory bodies and national decision makers as well as on the private sector. Malta, through the Malta Council for Science and Technology, has been a member of COST since 1997 and has been involved in over 136 COST Actions to date. In addition, more than 300 researchers in Malta have begun to benefit from COST participation in various areas. Key contributions include improving health and social care standards for migrants and ethnic minorities in Europe, reducing carbon through improved design and the management of urban buildings, design of new solar panels for energy, literacy, and the improvement of water quality.

## Joint Research Centre (JRC)

The JRC provides the Commission with independent, evidence-based scientific and technical support on EU policy and collaborates with over a thousand organisations worldwide whose scientists have access to many JRC facilities through various collaboration agreements. Supported by the Council's efforts, the JRC has collaborated with our national authorities, academia and industry on 12 scientific networks, 2 Framework Programme projects and, 3 Collaboration agreements.

# Projects Implementation Unit

Director  
Ms. Nadine Castillo

Assistant Director  
Ms. Anthea Fabri

The remit of the Projects Implementation Unit at the Council is that of primarily offering support to Malta's research community on EU funding with particular focus on Horizon 2020, the EU Framework Programme for Research and Innovation. This programme which comprises of nearly €80 billion of funding available over 7 years, has been set out to couple Research and Development (R&D) with Innovation through novel proposals drafted within a consortia of researchers coming from different sectors such as industry, research institutes and public organisations.

In view of Europe's societal challenges, the breaking down of barriers towards the creation of a genuine market for knowledge, research and innovation is the principle goal of this programme. Nonetheless, boosting industrial competitiveness, producing world-class science and providing seamless support to researchers from scientific discovery to commercialization are amongst the foundations for this programme.

As the official National Contact Point (NCP) agency, the Malta Council for Science and Technology is tasked to assist and hand-hold Maltese potential participants in the submission of their project proposal in the fields of 'Excellent Science', 'Industrial Leadership' and tackling of 'Societal Challenges'. The NCP services within the Projects Implementation Unit, extends to cover the following:

- Informing and raising awareness on opportunities for Maltese researchers;
- Advising and training on various aspects of Horizon 2020;
- Holding free one-to-one tailored consultation;
- Assisting in partner searches;
- Vetting and assistance on proposal writing; and
- Providing guidance on proposal submission.

Additionally, the network of NCPs also represent Malta and its interests in Horizon 2020 at Programme Committee level. The role of the Programme Committee Members is to act as National delegates in liaison with the EU Commission to safeguard Malta's best interests in terms of strategic planning, on the voting of the work programmes for Horizon 2020 and on securing nationally funded activities.

The main driver for the successful development of this Unit has always been dependant on the best practices of the previous Framework Programmes managed within this same unit. The starting point towards a striving NCP network has been founded on the results and evaluations of the positive outputs generated from the previous years of effectively fulfilling the role of both National Contact Points and Programme Committee Members. In this context, the ambition of this Unit is that of building capacity and critical mass for Malta to be able to better participate in EU programmes such as Horizon 2020.

Needless to say, the strong collaboration with the Policy, Strategy and Internationalisation Unit within the Council has proven to be a core part in ensuring that Malta's priorities and best interests are continuously aligned to the priorities set at European level. During 2014, collaboration with this Unit allowed room for the identification of Malta's weaker areas of R&I that have been addressed in the drafting of the National Research and Innovation Strategy 2020. Furthermore, the most promising thematic areas that have the most potential to become the key components of Malta's knowledge-based economy have been identified through the drafting preparations of the Smart Specialisation Strategy.

The identification of the weakest fields of research resulted in a proactive approach from the Projects Implementation Unit to attempt to attract newcomers from these areas to participate in the programme.

To date, this exercise resulted in 41 Maltese entities partnering up within a consortium both as Coordinators and Partners of the project. From the data that has been collected to date, out of the 65 proposals comprising of Maltese entities, 9 have been ranked on the main list for funding and a further 5 proposals on the reserve list. Entities ranged from educational and research institutions to public and private entities including SMEs. More data is expected to be retrieved following the European Commission's evaluation period that is to be held in the first few months of 2015.

## Horizon 2020 National Launch

2014 marked the year for Malta's Horizon 2020 National Launch. The event, organised by the Ministry for Education and Employment, was held on the 7 February 2015 at the Corinthia Hotel, St. George's Bay with the theme; A New Horizon: Research and Innovation Opportunities in Malta.

The keynote speakers for this launch were Ms. Maire Geoghegan Quinn, the EU Commissioner for Research, Innovation and Science and Dr. Tonio Borg, the European Commissioner for Health, along with other national and foreign high level representatives. Maltese researchers were urged to move out of their silos and understand the importance of science as a means of improving the quality of life. The Commissioner emphasised the importance of this programme to small and medium-sized companies, whereby, more than €9 billion will flow to SMEs over the next 7 years.

## National Research Portal

The Projects Implementation Unit, has also undertaken the initiative to develop a national research portal that will serve as a platform for knowledge sharing and networking while showcasing Malta's Research and Innovation talent based locally or overseas in any field and scope. This portal will also function as a one-stop-shop for career and funding opportunities, as well as events, with the aim of increasing the visibility of research in Malta and optimising networking between research facilities, universities, public authorities, end users and suppliers.

Since R&I activities are gaining ground in Maltese companies, the emphasis during the setting up of this portal is to be on the above mentioned outlooks, and also on the prospect of developing a vehicle to scout Maltese talent in R&I. For the Council, this portal will be a tool for collecting and analysing information about the Maltese R&I landscape and the activities of Maltese R&I players based abroad. Currently, this unit has started work on the drafting of the terms of reference document in preparation for the tendering process thereafter. This portal is expected to be operational in 2015.

## Enterprise Europe Network

The Malta Council for Science and Technology joined a Consortium led by Malta Enterprise, together with Malta Chamber of Commerce, Enterprise and Industry, and the Malta Business Bureau, to submit a proposal entitled Maltese – European Linkages for Internationalisation, Innovation and Technology Transfer (MELIITA) under a COSME and a Horizon 2020 call to represent the Enterprise Europe Network (EEN) in Malta over the next seven years. Following submission under COSME, the Consortium received very encouraging comments and scored 83%. The project is expected to kick off in the beginning of 2015. The main objective of EEN services is to foster competitiveness, growth and sustainability of European SMEs. Organisations will be offered business and innovation support through the Network's resources, which includes 3,000 experienced members of staff from all over Europe.

The proposal includes: support and information activities, feedback activities, cross-border partnering activities for business cooperation, technology transfer, innovation and research. The range of services proposed by MELIITA is tailor-made for the local scenario and aims to support the smart growth of Maltese micro enterprises and SMEs, while offering backing to boost the effectiveness of investment in research and innovation. Some foreseen benefits include: the strengthening of innovation capacity and innovation management capacity, the adoption of a more multi-disciplinary approach between cross-cutting technologies, transnational research and development cooperation, and the creation of a more vibrant, innovative, competitive business community connected to a network of players along the innovation chain. Considering the complexity of the innovation process, coupled with the fast rate at which technology develops, companies will be professionally guided to ensure that ideas reach the market in a timely manner, while being aware of IP issues.

The proposed services would enable local micro enterprises and SMEs to develop a competitive edge both locally and internationally, with an enhanced capacity to better manage their innovation endeavours. In order to be able to suitably address the local market's needs, the Consortium plans to participate in a number of identified Sector Groups that include sustainable construction, tourism and cultural heritage, services and retail, and ICT. The proposal's objectives contribute towards the overall achievement of targets within the Europe 2020 Strategy.

## PRI-SCI-NET

PRI-SCI-NET is a European funded project, coordinated by the Malta Council for Science and Technology, under the Seventh Framework Programme (FP7). It brings together 17 European partners to promote inquiry-based learning in science at primary level for children ages 3-11. Over a span of 3 years, the project developed 45 inquiry based learning activities in 15 different languages, set up an academic journal entitled "Inquiry in Primary Science Education", developed a Europe-wide network for over 2000 primary school teachers and researchers, organized over 52 national courses in IBSE in 13 European countries, organized 3 international trainings and 2 international conferences.

## PLACES

The PLACES network project developed a common platform for a wide and diverse community of actors to promote cooperation in science communication activities, at a city/ regional level. Over the 4 years of the project, 67 science communication institutions, including the Malta Council for Science and Technology, worked with their local authority administrators and policy makers to plan, and in some cases, implement a long-term co-operation for the creation of 'cities of scientific culture'. This was achieved through the establishment of formal city partnerships based on a local action plan spanning over a period of 5 to 10 years. In addition, specific thematic groups were set up, to provide policy recommendations at a European level. The Malta Council for Science and Technology participated in the Young People and Scientific Careers thematic working group.

# Science Popularisation Unit

Director  
Mr. Karl Azzopardi

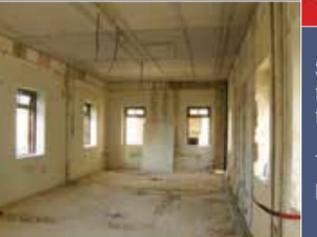
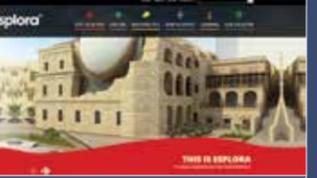
The Science Popularisation Unit (SPU) continued with its endeavour to execute work associated with the restoration and redevelopment of the Villa Bighi complex. The result of this project will be Malta's flagship Science Centre, Esplora; a hub for science communication, encouraging the uptake of science subjects and motivating public engagement with science. The year was dominated by work related to the successful completion of the Competitive Dialogue Process for seven tenders, as well as the delivery of several national science communication activities and projects.

This year was also characterised by the creation of a strong, unique brand identity that authentically represents Esplora on the inside and on the outside. Esplora's brand is inspiring, knowledgeable, confident, approachable, intuitive, connected, generous, and energetic. These qualities can be seen throughout our buildings, outdoor spaces, activities, communications and most especially in our team.



esplora<sup>®</sup>

*“We aspire to cultivate a culture of scientific curiosity and creativity by igniting a passion for questioning, investigation and discovery through encouraging our staff and visitors to explore, think, imagine.”*

January	February	March	April	May	June	July	August	September	October	November	December
 <p>SPU team and Logix Communications took part in a day workshop with Brand Consultant, David Harrison at Villa Bighi to initiate the development of a brand personality for the National Interactive Science Centre.</p> <p>Evaluations of the first phase of the Competitive Dialogue, the Pre-Qualification Questionnaires were concluded for the six tenders related to the National Interactive Science Centre exhibition content. Subsequently, the Invitation To Participate in Dialogue was issued to each shortlisted bidder.</p>  <p>Kalkara Primary School, St Margaret's College accepted the SPU's proposal to pilot the Edible Garden project. The project led to the establishment of a school garden with edible plants and fruit trees to be used as a teaching tool, specifically for primary-aged students. The plan included the design and development of a small garden, and the set up of an outdoor classroom and teacher training on how to use the garden as a teaching resource.</p>	<p>The Little Scientists Project was launched with the aim of stimulating enthusiasm for phenomena in the natural sciences and encouraging young enquiring minds to pose questions, come up with ideas and explore, just like 'little scientists'. This is done with the aid of very inexpensive and readily accessible tools. Little Scientists' House is a German foundation that aims to create a common platform for inquiry-based science in primary education. The first training topic covered Water and was delivered by the German trainers to MCST staff and peripatetic teachers.</p>  <p>Two team members participated in the Science Centre World Summit at Technopolis, Mechelen, Brussels. The outcome of the summit resulted in the signing of the Mechelen Declaration, an action plan for the international science centre field and their strategic partners to commit to concrete actions for the enhancement of public engagement for a better world.</p>  <p>An exciting bit of content for the Cot Lift Exhibition about the medical history of Villa Bighi was acquired in the form of a poetry book published by a patient treated at RNH Bighi circa 1918.</p>  <p>Resortation of historical and medical artefacts to be displayed in the Cot lift (Life at Bighi Exhibition) commences.</p> <p>The Works and Parking tenders were contracted.</p>	 <p>Two team members participated in the Science Centre World Summit at Technopolis, Mechelen, Brussels. The outcome of the summit resulted in the signing of the Mechelen Declaration, an action plan for the international science centre field and their strategic partners to commit to concrete actions for the enhancement of public engagement for a better world.</p>  <p>Beginning of the second phase of Competitive Dialogue, the Face-to-Face Dialogue Meetings with the short-listed Exhibition Fabricators. This is where the fabricators had the opportunity to explain the way they would develop the exhibition contents for the Interactive Science Centre. Photos feature some of the initial design submissions which were discussed.</p> <p>Resortation of historical and medical artefacts to be displayed in the Cot lift (Life at Bighi Exhibition) commences.</p> <p>The Works and Parking tenders were contracted.</p>	<p>SPU members delivered Little Scientists training to two groups of science teachers and educators on the topic Water.</p> <p>The market research for the Interactive Science Centre name draws to an end. The exercise included meeting a cross-section of potential future visitors to test the preferred name and logo, based upon a short-listed selection of names.</p>  <p>Two members of the SPU Team attended the Edinburgh International Science Festival. The vibrant programme explored how science lies at the heart of everything through family workshops, and thought-provoking shows and debates.</p>  <p>Commencement of works onsite</p>  <p>Large rain water reservoirs found in car park area. Works stopped to allow for thorough investigation of site and approvals from the relevant authorities.</p>	<p>The Malta Robotics Olympiad was organised in collaboration with the Department of eLearning to bring young people together to develop their creativity and problem solving skills through challenging and educational robotics competitions. The objectives of this event were inspired by those of the World Robots Olympiad, and included:</p> <ol style="list-style-type: none"> <li>1) providing students up to the age of 19 the opportunity to expand their horizons through exploration of robots and robotic systems in the school;</li> <li>2) introducing the concept of modern science into school's educational activities in science and technology and</li> <li>3) providing an opportunity to promote creative thinking, improve communications and cooperation skills.</li> </ol>  <p>Approval of final logo design for Esplora. The design was aimed to attract both children and adults alike. The colours and shape of the logo's main image appeal to children, whilst the logotype helps give the brand a sophisticated corporate feel.</p>  <p>Large rain water reservoirs found in car park area. Works stopped to allow for thorough investigation of site and approvals from the relevant authorities.</p>	<p>The second Little Scientists training topic covered Air and was delivered by the German trainers to MCST staff and peripatetic teachers.</p>  <p>Following the successful completion of the Competitive Dialogue, six tenders were contracted related to the exhibition content for the Main Building, Ground Floor; Main Building, Mezzanine; Main Building, Basement; Universe; Outdoor Area and the Cot Lift.</p>	<p>A bespoke Little Scientists training course Exploring Water was delivered by SPU staff to MCAST Early Learning lecturers. A group of science educators also attended in-service training in the same topic.</p>  <p>The SPU was invited to participate in the PRI-SCI-NET 2nd International Conference and to deliver a keynote address on the Interactive Science Centre and Non-formal Learning. This conference served to bring together primary school teachers to celebrate the work achieved throughout the project, as well as provide space for those teachers whom the project had identified as champions in promoting inquiry-based learning in science at primary level, to share their experiences.</p> <p>Planetarium tender contracted</p> 	<p>Training in Optimising Social Media for Public Administrations and Institutions was attended by two team members in Berlin. This training was funded by ESF4.100.</p>  <p>The SPU assisted the French Embassy on the occasion of the Maltese call of the Tara Méditerranée Expedition. Tara, a legendary boat built for extreme conditions and the platform for high-level scientific research missions, was assisted with berthing; setting up an exhibition in St George Square, Valletta; issuing a press call and inviting local stakeholders to the activities organised.</p> <p>Tender for IT published.</p> <p>Start of of contracts and inception meetings with the appointed Exhibition Fabricators for the design and manufacture of the exhibits for the Main Building, Ground Floor; Main Building, Mezzanine; Main Building, Basement; Universe; Outdoor Area and the Cot Lift and the planetarium.</p>  <p>SPU coordinated a stand in collaboration with the Amaze Community Project as part of Science in the City and Notte Bianca 2014. This project consisted of a huge maze built on Piazza San Gorg in Valletta within which a series of interactive science related exhibits were displayed. More than 80,000 people attended the event. Photo: logixcreative.com</p> <p>Part of the car park was re-designed to accommodate large rain water reservoirs. Work continued.</p> <p>Civil works on the new extension commenced surrounding the Mental Ward.</p>	<p>Continuation of contracts and inception meetings with the appointed Exhibition Fabricators for the design and manufacture of the exhibits for the Main Building, Ground Floor; Main Building, Mezzanine; Main Building, Basement; Universe; Outdoor Area and the Cot Lift and the planetarium.</p>  <p>Two members of staff started to attend regular roundtable meetings at the President's Foundation for the Well Being of Society. The aim of these meetings is to generate initiatives to produce relevant, appropriate and timely research by seeking innovative methodologies to engage with society for the promotion of peace and unity.</p> <p>Building services such as installation of water and electricity, are at an advanced stage.</p> <p>Tender for Art Pieces published</p>	<p>Esplora website goes live!</p>  <p>SPU members delivered Little Scientists training to two groups of science teachers and educators on the topic Air.</p> <p>Tender for Audio Visual Supplies published.</p>  <p>Train-the-trainer Little Scientists Course delivered by the Germans to local peripatetic teachers on how to deliver workshops for teachers.</p> <p>Substantial part of the restoration works on site was completed</p> <p>Excavation works are close to completion</p> <p>Tender for Science Shows (up to 12 yrs) published.</p> <p>Tender for Translation Services and Label Writing published.</p> <p>Collaborations between exhibit fabricators, architects and main contractors for works become more intensive.</p>	<p>4th December 2014 marked the official launch of the ERDF 311 National Interactive Science Centre project to the general public. The Minister for Education and Employment, Dr. Evarist Bartolo, Parliamentary Secretary Mr. Chris Agius together with MCST Chairman, Dr. Jeffrey Pullicino Orlando, the SPU Director, Mr. Karl Azzopardi and the Project Leader, Mr. Nigel Pace Asciak gave their contributions during the press launch. This event was well attended by members of the press, staff at the Malta Council for Science and Technology as well as other distinguished guests and stakeholders.</p> 	

# Operations Unit

Chief Administrative Officer  
Mr. Mario Borg

The Unit is responsible for all facilities and facility planning within The Malta Council for Science and Technology. It coordinates the various administrative, auxiliary and maintenance services, to ensure that all support and services provided by the entity are of the highest quality, as well as the provision of a well-maintained and equipped work environment that operates in the most cost effective manner.

In 2014, work continued on the refurbishment of Villa Bighi with extended electrical and refurbishment works. The building's constant exposure to the sea and natural elements necessitate constant maintenance, which is also proficiently handled by the Maintenance Team.

A number of events were organised at the Council during 2014, making optimal use of the Villa's lower grounds. Incorporating a 90-seat Conference Hall that is fully equipped with a PA system and projection, Villa Bighi hosted 9 workshops, 10 conferences, 13 information sessions and various press conferences. The Council also provided 12 sponsorship deals with various individuals/entities.

Furthermore, the Unit saw the update and management of the policy and procedures handbooks, the implementation and management of a user-support ticketing system, a staff training plan for the period 2014-2015, and ongoing collective bargaining with the employee-representative union and pertinent authorities. In addition, over the year, 27 parliamentary questions were answered.

## Procurement

In an unprecedented manner since the introduction of the competitive dialogue procurement procedure in the Maltese legislation which dates back to 2005, and in collaboration between The Malta Council for Science and Technology and the Department of Contracts, seven competitive dialogues were carried out simultaneously during 2014.

As a result, all seven contracts were awarded utilising this competitive dialogue procedure. These dialogues were carried out with potential suppliers for the fabrication of innovative and interactive science exhibits. All seven dialogue procedures were met with the active participation from interested suppliers both in Malta and abroad. The interactive science exhibits shall be specifically designed for Esplora Science Centre, which will be housed in the former Royal Navy Hospital complex in Bighi, Kalkara.

In total, 28 contracts were awarded during 2014 through public procurement for various works, supplies and services.

## Legal

The Legal section provides legal advice and representation to the Council in relation to ongoing projects, tenders, works and employee relations. It is charged with the coordination and addressing of all law-related issues, and ensures it remains abreast with all statutory requirements to facilitate the smooth execution of any issues arising with ongoing undertakings.

## Public Relations

In 2014, the Council prominently featured in 18 press releases and fifteen articles as well as actively participating in several conferences and interviews held on local television stations. The dissemination of information through the various media channels aims at informing the general public of the ongoing engagements and achievements of the Malta Council for Science and Technology.

## Health and Safety

The Unit undertook the development of Health and Safety Policies and Procedures in line with the Occupational Health and Safety Authority Act (ACT XXVII of 2000, as amended by Act XXXII of 2007 and Legal Notice 426 of 2007). In addition, staff received ongoing training in different areas related to occupational well-being at work. The Malta Council for Science and Technology undertook the task of hazard record-keeping, in view of the ongoing restoration works within ESPLORA.

## ICT

In 2014, the Unit installed a new managed wireless network which now provides total coverage of the The Malta Council for Science and Technology premises. Furthermore, it continued to ensure the upkeep and upgrade of all IT equipment. The telephony system was also upgraded to cater for the additional staff compliment. A new file server was installed, providing a file replication service, and shared and segregated folder systems.

## Human Resources

2014 saw a marked expansion in the personnel compliment. A total of 8 new recruits joined the Council, involving close coordination with the Employment & Training Corporation, advertising on newspapers, job interviews, issuing of employment contracts, and the organisation of new recruit job inductions. This also required very close coordination between the Council, the Ministry of Education and Employment and the Management Personnel Office. In addition, an induction policy and procedure was integrated within the employment policy and procedures to ensure the smooth engagement or transition of personnel within the entity and the different units.

# Finance Unit

Financial Controller  
Mr. Gaetano Avallone

The Finance Unit is responsible for the organisation of financial and accounting affairs and the continued provision of information to assist the Executive Chairman and the Unit Directors in making strategic decisions as well as to ensure up-to-date reporting to the Line Ministry. It holds ultimate responsibility for the management of the organisation's cash flow and ensures the precise, transparent and adequate disbursement of funds through the year. The Unit also prepares periodical forecasts to systematically calculate the ongoing financial requirements and out flows.

In 2014, a new payroll and web-based leave system were introduced. It is the aim of the Finance Unit to always improve on the current accounting system so as to enable a better understanding of the accounting matrix.

In addition, various FP7 projects reached the final reporting stage and were completed within the set deadlines. In 2014, The Malta Council for Science and Technology had 191 visits abroad against 300 visits in 2013 and the finance department handled the financial side and record keeping of these successfully.

In line with the Charter Document of the Foundation, the Unit is also responsible for preparing financial statements and provide the necessary support to ensure a smooth audit process. For 2014, the auditors confirm that they have audited all financial statements and concord that they have been properly prepared and give a true and fair view of the state of affairs, in accordance with the Accountancy Profession (General Accounting Principles for Smaller Entities) 2009, and the schedule accompanying and forming part of these regulations.

# Annual Report and Financial Statements for the year ended 31 December 2014

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# Chairman's report For the year ended 31 December 2014

The Chairman presents his report and the audited financial statements for the year ended 31 December 2014.

## 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.

## Review of the business

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

## Council

The members of the Council were:

Chairman:	Dr. Jeffrey Pullicino Orlando, B.Ch.D.(Hons)
Vice Chairman & CEO:	Prof. Richard Muscat, Ph.D
Secretary:	Dr. Vince Micallef, LL.D
Board Members:	Prof. Maurice Grech, B.Eng.(Hons), M.Sc.(Birm), Ph.D.(Birm), C.Eng.F.I.M., M.I.B.F. Prof. Alfred Vella, B.Sc., M.Sc., Ph.D (Col.Sch.Mines), CSCi, CChem, FRSC Prof. Emmanuel Sinagra, Ph.D Dr. Karen Mugliett, Ph.D Mr. David Degabriele Prof. Janet Mifsud Ph.D Dr. Ivan Gatt Ph.D Ms. Claudine Cassar Mr. Vincent Maione Dr. Kristian Zarb Adami Ph.D Mr. Karl Herrera (appointed on 23/06/2015) Mr. Robert Falzon (resigned on 23/06/2015) Dr. John Betts Ph.D (resigned on 15/03/2015)

# Chairman's report (cont.)

## Statement of Council's responsibilities

The Council is required by the Charter Document of the Foundation to prepare financial statements which give a true and fair view of the state of affairs of the Foundation as at the end of each financial period and of the surplus or deficit for that period.

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

- appropriate accounting policies have been consistently applied and supported by reasonable and prudent judgments and estimates;
- the financial statements have been drawn up in accordance with the Accountancy Profession (General Accounting Principles for Smaller Entities) Regulations, 2009 and the Schedule accompanying and forming an integral part of those Regulations;
- the financial statements are prepared on the going concern basis unless it is inappropriate to presume that the Foundation will continue in business as a going concern.

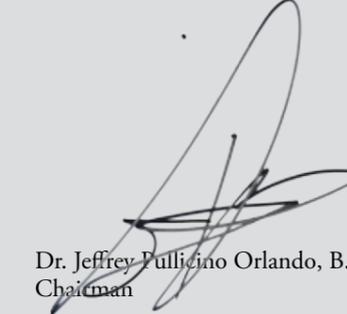
The Council is also responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Foundation and to enable the council members to ensure that the financial statements comply with the Charter Document of the Foundation.

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.

## Auditor

A resolution to reappoint the firm Mercieca, Azzopardi & Co. as auditors of the Malta Council for Science and Technology will be proposed at the forthcoming meeting at which these financial statements are approved and authorised for issue.

## By order of the Council



Dr. Jeffrey Pullicino Orlando, B.Ch.D.(Hons)  
Chairman

“Villa Bighi”  
Kalkara  
Malta

30 July 2015

# Independent auditor's report

## Report on the financial statements

We have audited the accompanying financial statements of the Malta Council for Science and Technology set out on pages 39 to 48, which comprise the balance sheet as at 31 December 2014, the income and expenditure account, statement of changes in equity and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

## Council's responsibility for the financial statements

The Council is responsible for the preparation of financial statements that give a true and fair view in accordance with the Accountancy Profession (General Accounting Principles for Smaller Entities) Regulations, 2009 and the Schedule accompanying and forming an integral part of those Regulations and for such internal control as the council members determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

## Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the council members, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements give a true and fair view of the financial position of Malta Council for Science and Technology as at 31 December 2014, and of its financial performance and its cash flows for the year then ended in accordance with General Accounting Principles for Smaller Entities.

## Report on Other Legal and Regulatory Requirements

In our opinion, the financial statements have been properly prepared in accordance with the Accountancy Profession (General Accounting Principles for Smaller Entities) Regulations, 2009 and the Schedule accompanying and forming an integral part of these Regulations, for qualifying entities as presented in these regulations.



Ray Mercieca (Partner) for and on behalf of

**Mercieca, Azzopardi & Co.**  
Certified Public Accountants  
San Gwann  
Malta

30 July 2015

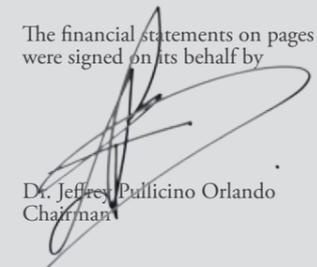
# Income and expenditure account for the year ended 31 December 2014

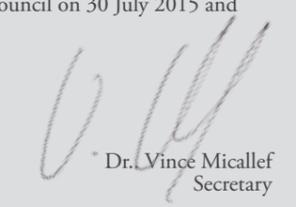
	Notes	2014 €	2013 €
<b>Project income</b>		<b>1,727,260</b>	568,884
Project expenses		<b>(1,688,477)</b>	(591,942)
<b>Gross surplus/(deficit)</b>		<b>38,783</b>	(23,058)
Administrative expenses		<b>(1,569,668)</b>	(1,456,928)
<b>Operating deficit</b>	3	<b>(1,530,885)</b>	(1,479,986)
Other income	5	<b>1,794,728</b>	1,584,281
Investment income	6	<b>3,162</b>	3,213
Interest payable and similar charges	7	<b>-</b>	(402)
<b>Surplus for the year</b>		<b><u>267,005</u></b>	<u>107,106</u>

## Balance sheet at 31 December 2014

	Notes	2014 €	2013 €
<b>Assets</b>			
<b>Non-current assets</b>			
Property, plant and equipment	9	9,927,485	740,639
Investments in associated undertaking	10	-	-
		<u>9,927,485</u>	<u>740,639</u>
<b>Current assets</b>			
Trade and other receivables	11	406,685	476,844
Cash at bank and in hand		1,775,628	1,279,227
		<u>2,182,313</u>	<u>1,756,071</u>
<b>Total assets</b>		<b><u>12,109,798</u></b>	<b><u>2,496,710</u></b>
<b>Equity</b>			
<b>Reserves</b>			
Accumulated fund		639,617	372,612
<b>Liabilities</b>			
<b>Non-current liabilities</b>			
Trade and other payables	12	9,763,859	641,784
<b>Current liabilities</b>			
Trade and other payables	12	1,706,322	1,482,314
<b>Total liabilities</b>		<b><u>11,470,181</u></b>	<b><u>2,124,098</u></b>
<b>Total equity and liabilities</b>		<b><u>12,109,798</u></b>	<b><u>2,496,710</u></b>

The financial statements on pages 39 to 48 were authorised for issue by the Council on 30 July 2015 and were signed on its behalf by

  
Dr. Jeffrey Pullicino Orlando  
Chairman

  
Dr. Vince Micallef  
Secretary

## Statement of changes in equity for the year ended 31 December 2014

	Accumulated fund €	Total €
Balance at 1 January 2013	265,506	265,506
Surplus for the year	<u>107,106</u>	<u>107,106</u>
Balance at 31 December 2013	<b><u>372,612</u></b>	<b><u>372,612</u></b>
Balance at 1 January 2014	372,612	372,612
Surplus for the year	<u>267,005</u>	<u>267,005</u>
<b>Balance at 31 December 2014</b>	<b><u>639,617</u></b>	<b><u>639,617</u></b>

# Cash flow statement for the year ended 31 December 2014

	Note	2014	2013
		€	€
<b>Cash flow from operating activities:</b>			
Operating deficit		(1,530,885)	(1,479,986)
Adjustments for:			
Depreciation of property, plant and equipment		<u>61,683</u>	<u>63,165</u>
Operating deficit before working capital changes		(1,469,202)	(1,416,821)
<b>Changes in working capital</b>			
Trade and other receivables		70,159	(119,547)
Trade and other payables		<u>224,008</u>	<u>501,052</u>
<b>Cash used in operations</b>		(1,175,035)	(1,035,316)
Interest received		3,162	3,213
Interest paid		-	(402)
Other income		<u>1,794,728</u>	<u>1,584,281</u>
<b>Net cash generated from operating activities</b>		<u>622,855</u>	<u>551,776</u>
<b>Cash flows used in investing activities</b>			
Purchase of plant, property and equipment		<u>(9,248,529)</u>	<u>(162,979)</u>
<b>Cash flows generated from financing activities</b>			
Contribution from government grants		<u>9,122,075</u>	<u>186,076</u>
<b>Movement in cash and cash equivalents</b>		496,401	574,873
Cash and cash equivalents at beginning of year		<u>1,279,227</u>	<u>704,354</u>
<b>Cash and cash equivalents at end of year</b>	13	<u>1,775,628</u>	<u>1,279,227</u>

# Notes to the financial statements

## 1 Basis of preparation

The financial statements of the Malta Council for Science and Technology have been prepared in accordance with the Accountancy Profession (General Accounting Principles for Smaller Entities) Regulations, 2009 and the Schedule accompanying and forming an integral part of those Regulations (“GAPSE”).

### Basis of measurement

The financial statements are prepared in accordance with the historical cost convention.

### Functional and presentation currency

The financial statements are presented in euro, which is the Foundation’s functional currency.

## 2 Significant accounting policies

### 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 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.

Property, plant and equipment is carried under the cost model, that is at cost less any accumulated depreciation and any accumulated impairment losses.

#### Depreciation

Depreciation is calculated to write down the carrying amount of the asset on a straight line 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) in accordance with Section 24 of GAPSE 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 are based on the following useful lives:

Improvements to building	10
Office equipment	10
Soft furnishings	10
Technical equipment	20
Furniture, fixtures and fittings	10
Motor vehicles	20
Computer hardware and software	33.33

No depreciation is being provided for on the National Interactive Science Centre. Government funds are available to set up the National Interactive Science Centre at the Bighi complex in Kalkara. The science centre has so far incurred expenses relating to design and in accordance with Section 7.20 of GAPSE no depreciation is being provided for until the asset is made available for use.

### Impairment

The carrying amounts of the Foundation’s property, plant and equipment 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.

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 in accordance with the applicable Section in GAPSE.

The carrying amounts of the Foundation’s 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 in accordance with the applicable Section in GAPSE.

### Investment in associate undertakings

An associate is an entity over which the foundation has significant

influence and that is neither a subsidiary nor an interest in a joint venture. Significant influence is the power to participate in the financial and operating policy decisions of the associate but is not control or joint control over those policies.

Investments in associates are initially measured at cost. After initial recognition, the investment may be carried under the cost method, or under the equity method, that is at its initial recognition amount, subsequently adjusted to recognise the foundation’s share of the profit or loss or changes in equity of the associate after the date of acquisition, and to recognise impairment losses.

After initial recognition, investments in associates are carried under the cost method. Under the cost method, the investment is measured at cost less any impairment losses. Distributions received are recognised as investment income in profit or loss when the foundation’s right to receive the dividend is established.

### Trade and other receivables

Trade and other receivables are carried forward at anticipated realisable value. An estimate is made for doubtful receivables based on a review of all outstanding amounts at year end. Bad debts are written off during the year in which they are identified.

### Trade and other payables

Trade and other payables are stated at their nominal value.

### Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits. Bank overdrafts that are repayable on demand and form an integral part of the Foundation’s cash management are included as a component of cash and cash equivalents for the purpose of the statement of cash flows.

### Revenue

Revenue is recognised upon performance of services and is reported in the financial statements as project income.

### Government grants

Government grants are recognised when there is reasonable assurance that all the conditions attaching to them are complied with and the grants will be received. Any grants relating to future periods are recognised as deferred income. Government grants related to income 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.

### 3 Operating deficit

The operating deficit is stated after charging the following:

	2014	2013
	€	€
Depreciation of property, plant and equipment (note 9)	61,683	63,165
Staff costs (note 4)	1,184,020	1,077,725
Auditor's remuneration	<u>1,700</u>	<u>1,700</u>

### 4 Staff costs

	2014	2013
	€	€
Wages and salaries	1,044,356	943,433
Social security costs	75,908	63,667
Council members' emoluments	<u>63,756</u>	<u>70,625</u>
	<u>1,184,020</u>	<u>1,077,725</u>

Average number of full time equivalents employed during the year:

	2014	2013
	€	€
Administration	<u>46</u>	<u>37</u>

### 5 Other income

	2014	2013
	€	€
Government of Malta subvention	1,000,000	952,149
Grants related to capital expenditure	124,776	97,191
Refund of salaries and expenses	91,528	40,449
Science Centre subvention	575,504	482,130
Sundry income	<u>2,920</u>	<u>12,362</u>
	<u>1,794,728</u>	<u>1,584,281</u>

### 6 Investment income

	2014	2013
	€	€
Interest receivable on bank balances	<u>3,162</u>	<u>3,213</u>

### 7 Interest payable and similar charges

	2014	2013
	€	€
Bank interest payable and similar charges	<u>-</u>	<u>402</u>

### 8 Income tax

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

## 9 Property, plant and equipment

	Improvements to building	National Interactive Science Centre	Office Equipment	Soft Furnishings	Technical Equipment	Furniture, fixtures & fittings	Motor vehicles	Computer hardware & software	Total
Cost	€	€	€	€	€	€	€	€	€
At 1 January 2013	473,166	362,300	47,867	19,608	86,400	218,210	8,852	241,785	1,458,188
Additions	—	<u>126,261</u>	—	—	<u>1,161</u>	<u>6,535</u>	—	<u>29,022</u>	<u>162,979</u>
At 1 January 2014	473,166	488,561	47,867	19,608	87,561	224,745	8,852	270,807	1,621,167
Additions	—	<u>9,226,212</u>	<u>329</u>	<u>653</u>	—	<u>8,491</u>	—	<u>12,844</u>	<u>9,248,529</u>
<b>At 31 December 2014</b>	<b><u>473,166</u></b>	<b><u>9,714,773</u></b>	<b><u>48,196</u></b>	<b><u>20,261</u></b>	<b><u>87,561</u></b>	<b><u>233,236</u></b>	<b><u>8,852</u></b>	<b><u>283,651</u></b>	<b><u>10,869,696</u></b>
<b>Depreciation charge</b>									
At 1 January 2013	310,526	-	45,684	18,818	85,528	142,120	8,852	205,835	817,363
Charge for the year	<u>20,372</u>	—	<u>378</u>	<u>119</u>	<u>896</u>	<u>11,061</u>	—	<u>30,339</u>	<u>63,165</u>
At 1 January 2014	330,898	-	46,062	18,937	86,424	153,181	8,852	236,174	880,528
Charge for the year	<u>20,372</u>	—	<u>411</u>	<u>158</u>	<u>351</u>	<u>11,423</u>	—	<u>28,968</u>	<u>61,683</u>
<b>At 31 December 2014</b>	<b><u>351,270</u></b>	<b>—</b>	<b><u>46,473</u></b>	<b><u>19,095</u></b>	<b><u>86,775</u></b>	<b><u>164,604</u></b>	<b><u>8,852</u></b>	<b><u>265,142</u></b>	<b><u>942,211</u></b>
<b>Net book value</b>									
<b>At 31 December 2014</b>	<b><u>121,896</u></b>	<b><u>9,714,773</u></b>	<b><u>1,723</u></b>	<b><u>1,166</u></b>	<b><u>786</u></b>	<b><u>68,632</u></b>	<b>—</b>	<b><u>18,509</u></b>	<b><u>9,927,485</u></b>
Net Book Value									
At 31 December 2013	<u>142,268</u>	<u>488,561</u>	<u>1,805</u>	<u>671</u>	<u>1,137</u>	<u>71,564</u>	—	<u>34,633</u>	<u>740,639</u>

## 10 Investment in associated undertaking

	2014	2013
	€	€
Investment in associated undertakings at cost	—	—

Name	Registered office	Principal activities	Percentage of shares held	
			2014	2013
Euromediti Limited	Villa Bighi, Kalkara Malta	Development of new technologies	33%	33%

Euromediti Limited has given notice in accordance with Article 265 (1) of the Companies Act, 1995 that it has passed an extraordinary resolution dated 25 January 2013, for its dissolution and consequential voluntary winding up.

## 11 Trade and other receivables

	2014	2013
	€	€
Trade receivables	26,269	10,916
Prepayments	10,855	8,355
Accrued income	37,245	303,031
Indirect taxation	236,128	154,542
Other receivables	<u>96,188</u>	—
	<b><u>406,685</u></b>	<b><u>476,844</u></b>

## 12 Trade and other payables

	2014	2013
	€	€
<b>Non Current</b>		
<b>Government Grants</b>		
At beginning of year	641,784	455,708
Additions	9,122,075	186,076
Released to income and expenditure account	—	—
<b>At end of year</b>	<b><u>9,763,859</u></b>	<b><u>641,784</u></b>
<b>Current</b>		
Trade payables	116,539	53,968
Contingency	2,578	2,578
Accruals	143,388	133,641
Deferred income	<u>1,443,817</u>	<u>1,292,127</u>
	<b><u>1,706,322</u></b>	<b><u>1,482,314</u></b>

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 and expenditure account when the asset is available for use, on a straight line basis over the expected useful lives of the related assets. 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 National Interactive Science Centre.

### 13 Cash and cash equivalents

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

	2014	2013
	€	€
Cash at bank and in hand	<u>1,775,628</u>	<u>1,279,227</u>

### 14 Contingent liabilities

At 31 December 2014, guarantees amounting to €4,659 (2013: €4,659) 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.

Design Solutions Limited have initiated legal proceedings against the Foundation, claiming that the National Interactive Science Centre contract be awarded to them. MCST 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.

### 15 Related party transactions

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:

	2014	2013
	€	€
Other funding	<u>1,000,000</u>	<u>952,149</u>

Fees and salaries payable to the Council Members have been disclosed separately in note 4.