



Malta Council for Science and Technology

Introduction to the Knowledge System in Malta

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Contents

1. Background to the national landscape for R&I
2. MCST's areas of activity
3. Overview of statistics
4. Malta and the ERA dimension

Contents

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- Overview of statistics
- Malta and the ERA dimension

Characteristics of the national research landscape

- Relatively young with traditionally low levels of investment in R&D
- Small, open economy characterized by a very high percentage of micro-enterprises.
- Most private R&D concentrated in a few firms clustered around specific sectors.
- Fragmentation affecting capacity to participate in international research set-ups and capacity to absorb funds locally
- Public R&D funding is mostly direct funding. Only a small proportion is distributed through a competitive call.

Main public entities involved

<i>Ministry</i>	<i>Relevant Policy Area</i>	<i>Related Entity/ies</i>	<i>Instruments</i>
Office of the Prime Minister	Science and Technology, Research and Innovation	Malta Council for Science and Technology	National R&I Funding Programme, FP.
	Cohesion Policy	Planning and Priorities Coordination Department	ERDF, ESF, Cohesion Fund.
Ministry of Education, Employment and the Family	Higher and Further Education	University of Malta (both a HEI and major research performer)	STEPS
		Malta College of Arts, Science and Technology	MGSS RTDI Trust Fund
Ministry for Finance, the Economy and Investment	Industry Policy SME Policy	Malta Enterprise	Grants Tax Refunds CIP

Contents

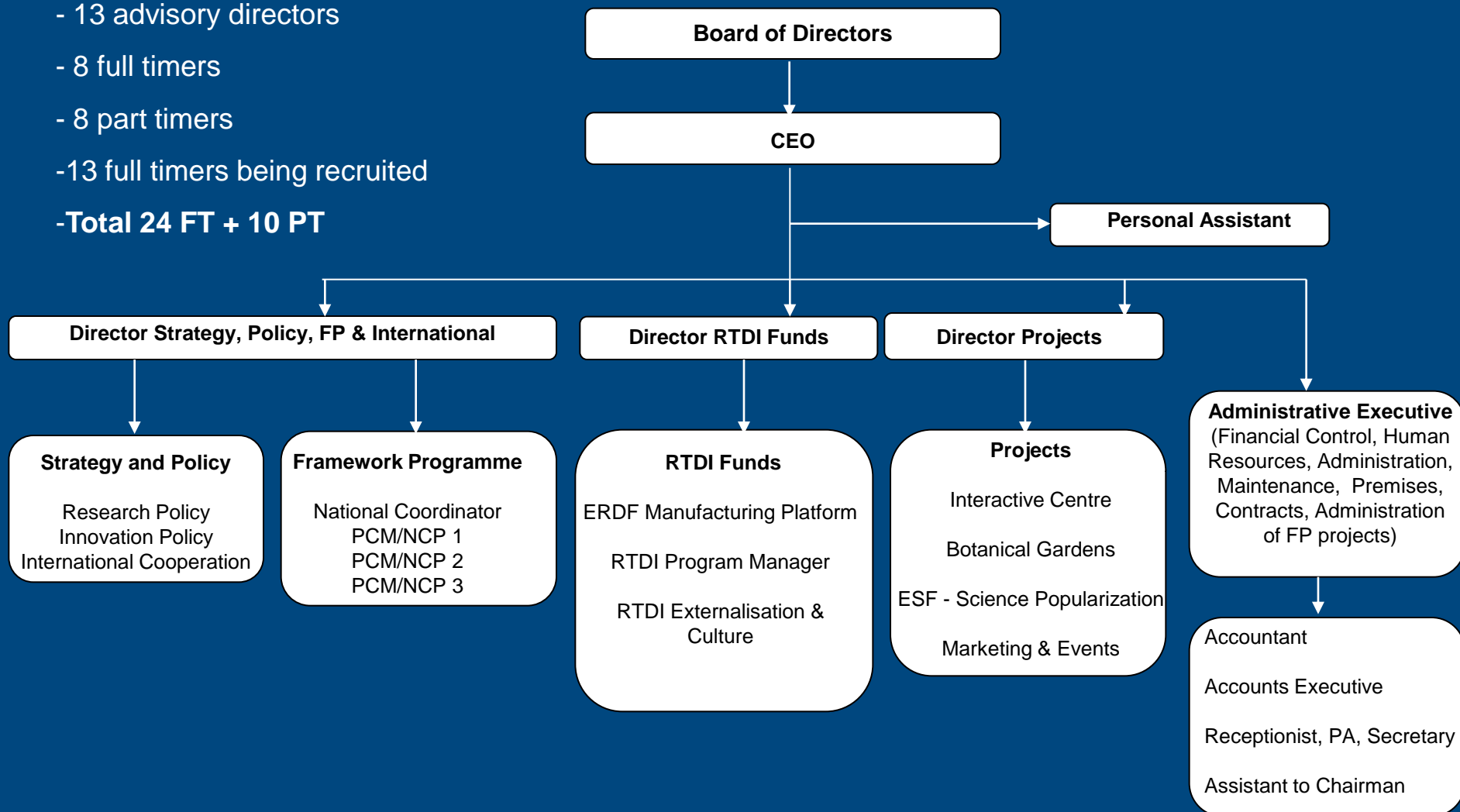
1. Background to the national landscape for R&I
2. MCST's areas of activity
3. Overview of statistics
4. Malta and the ERA dimension

MCST Today

- Set up in 1988
- Scope: Science, Technology, Research & Innovation
- Responsibilities:
 - 1) National R&I Strategic Plan
 - 2) EU Policy Initiatives
 - 3) FP7 National Contact Organisation
 - 4) National RTDI Funding Agency
 - 5) Science Popularisation

MCST Team

- 13 advisory directors
- 8 full timers
- 8 part timers
- 13 full timers being recruited
- Total 24 FT + 10 PT



1(a). National R&I Strategic Plan 2007-2010

- Approved by the Cabinet of Ministers in 2006.
 - Championed by MCST.
 - Based on 7 strategic principles
 - Aims to set up a R&I enabling framework.
 - Highly business-oriented.
 - Identified 4 priority research areas for Malta.
1. *Address national issues.*
 2. *Focus on selected areas of economic importance.*
 3. *Enable SMEs to innovate.*
 4. *Export locally-generated R&I.*
 5. *Expand the local SET human capital base.*
 6. *Establish a nexus between industry and academia.*
 7. *Develop a national pro-innovation culture which support invention, risk taking and entrepreneurship.*
- I. *Health and biotechnology.*
 - II. *ICT*
 - III. *Energy and environment.*
 - IV. *High value-added manufacturing.*

1(b). Main ongoing actions to implement the national R&I strategy between 2008-2010 by key players

- Boosting HR in S&T and increasing researcher numbers – STEPS and MGSS schemes.
- Approx. €34 million in new or upgrading of research infrastructure.
- €15 million in a Life Sciences Centre strategically positioned to combine research, innovation and higher education aspects.
- Science popularization campaign.
- Thematic research strategy for high value added manufacturing.
- First steps towards specialization into digital games production and setting up of a national bio-bank .
- Grants and tax incentives for industry.
- University Trust Fund set up.
- Analysis of possible collaboration with international scientific organizations including possible access to research infrastructures.
- Awareness raising on the importance of patents.
- Amendments to participation rules of the national R&I programme.
- Financial support for researchers to participate in brokerage events.

2. EU Policy Initiatives - support and national representation

- Working Party for Research and Atomic Questions
- Competitiveness Council
- ERAC (European Research Area Committee) and related groups.
- JRC Board of Governors
- ESFRI (European Strategy Forum on Research Infrastructures)
- Regular liaison with thematic ministries concerning research aspects of their portfolios.

3. FP7 National Contact Organization

- Provision of advice and information covering all aspects of FP7 (including info days, one-to-one meetings, etc.)
- National Contact Point (NCP) identified for every thematic and horizontal area.
- Every local NCP is part of a NCP network at the European level.

Participation in FP7

Preliminary indications for Malta's participation in FP7 are positive from the following aspects:

- In the first two years of FP7, Malta already secured **64** funded projects as compared to a total of 112 for FP6.
- Malta had secured over **€6million** to date as compared to a total of **10 M Euros** in FP6.
- A number of **new entrants** are participating in FP7 including a substantial number of Malta-based public and private sector participants which have already been successful in FP6.

FP7 Participation to date (at Dec 09)

- Strong performance in ICT and SSH.
- Weak performance in 'Ideas' and 'People'.
- 64% of budget received so far in FP7 is from the Cooperation programme.
- 32% of budget received is from the Capacities programme.
- Success rate for Capacities is higher (21%) than for Cooperation (17%).

	Submitted Proposals involving a Maltese partner	Funded Proposals	No. Of Maltese Participants in Funded Proposals	Final Negotiated Budget
Cooperation				
Health	25	2	2	199,475
KBBE	38	3	4	386,797
ICT	60	8	8	1,354,537
NanoMat	6	2	2	426,689
Energy	16	3	3	369,491
Environment	37	3	3	188,829
Transport	21	5	5	746,035
SSH	40	8	8	593,738
Space	4	2	2	184,080
Security	9	4	4	207,793
Total	256	40	41	4,657,464
Ideas				
ERC	4	0	0	
People				
MCA	28	6	12	204,082
Capacities				
RI	13	7	7	148,762
SMEs	69	9	12	1,287,949
Regions	6	0	0	0
Res Potential	3	1	1	25,038
SIS	29	5	6	343,671
Policies	3	2	2	250,882
INCO	4	3	3	268,463
Total	127	27	31	2,324,765
ERA-NET	5	3	3	139,444
Total	420	76	87	7,325,755

4. National R&I Programme

- Ongoing since 2004
- Aims to build local capacity and collaboration in R&I.
- Yearly budget of approx. €700,000.
- Funds applied research and experimental development on a competitive basis
- Proposals to be submitted by consortia made up of both academic and industrial partners.
- Foreign researchers can participate but cannot receive funding.

5. Science popularisation

- Science popularisation strategy developed in 2008.
- ESF funded project 'A science popularization campaign' (Approx. budget: €0.5million)
- Two large-scale one-week science and technology festivals with a strong emphasis on active engagement through hands-on activities and edutainment.
- Six mini-festivals in collaboration with local councils over a larger geographical spread with the intention of increasing community awareness and involvement.
- Radio spots, scientific mini-documentaries and a science animation training course.

Planned work and activities

- Significant boost to HR capacity at MCST.
- More active pursuit of collaboration opportunities with major international scientific organizations.
- Set up of an interactive science centre/museum.
- Thematic R&D strategy development on energy and health.
- Follow up R&I Strategy post-2010.
- More strategic approach towards FP participation.

Contents

1. Background to the national landscape for R&I
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3. Overview of statistics
4. Malta and the ERA dimension

R&D Statistics

Malta R&D expenditure as a percentage of GDP

<i>Year</i>	<i>GERD</i>	<i>BERD</i>	<i>GOVERD</i>	<i>HERD</i>
<i>2004</i>	0.53	0.35	0.01	0.17
<i>2005</i>	0.57	0.38	0.03	0.16
<i>2006</i>	0.61	0.40	0.03	0.18
<i>2007</i>	0.58^(p)	0.38	0.02	0.19
<i>2008</i>	0.54^(p)	0.35^(p)	0.01	0.17

(p) = provisional

Source: Eurostat. Accessed on-line June 4th 2010.

R&I aspects of the 2010 budget

- Additional €4million for the R&D&I streams of the '20 million for industry' grant scheme.
- €0.25million for the preparation of a national strategy for the development of the digital gaming industry.
- €0.25million for the setting up of a national bio-bank.
- €0.5million for the setting up of a Malta University Research, Innovation and Development Trust Fund
- Tax exemption from royalties and similar revenue resulting from patents on inventions.
- 15.2% refund on expenses on which tax has been paid on research projects.

Malta in the Innovation Scoreboard

- In the EIS 2009, MT improved its classification from 'catching up country' to 'moderate innovator'.
- MT displays the largest improvement within its peer group of moderate innovators.
- Above-average improvement in the dimensions of 'human resources', 'firm investments', 'linkages and entrepreneurship', 'throughputs' and 'innovators'.
- Below-average investment in 'finance and support'.

Contents

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3. Overview of statistics
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ERA and the National R&I Strategy

ERA policy development

- Ongoing since 2000 but revamped in 2007 with the ERA Green Paper.
- Six priority areas of European importance.
- Overarching policy approach which is not always sensitive to size considerations.
- Touches upon many priority areas in the Maltese R&I strategy.

National policy Development

- Pre-dates the renewed ERA.
- Seven strategic priorities of national importance.
- Tailored to the requirements of a small economy with low R&D intensity which is still at capacity-building stage.
- Well-aligned on a number of areas of the ERA.

Mapping ERA policies and the national R&I Strategy – human resources and mobility

- Good synergy between national policy and European policy as far as increasing human capacity and improving research career paths.
- University of Malta aims to establish a post-doctoral scheme for new PhD graduates.
- Mobility needs careful handling due to (a) low researcher numbers – MT is still at the capacity building stage, and (b) risk of brain drain.
- Ongoing measures aimed at capacity building for Masters and PhD students:
 - *‘Malta Government Scholarship Scheme’ (MGSS) launched in 2006 to assist students to pursue further levels of academic research and encourage more student participation at a postgraduate level of academic research, both locally and internationally.*
 - *‘Strategic Educational Pathways Scholarships’ (STEPS) ESF project launched in 2009 with the aim of complementing the MGSS with an increased focus on supporting PhDs in science and technology subjects. The total cost of this project is around €10 million.*

Research Infrastructures

ERA perspective

- ERA focus on placing and retaining Europe at the leading edge of knowledge creation through the building of new research infrastructures (or upgrade of existing ones).
- Many infrastructures already identified through the ESFRI process.
- Legal basis through ERIC legislation.

Ongoing work:

- UoM increase in research infrastructure capacity: Analytical Chemistry, Biomedical Engineering, Electromagnetic RTDI facilities, an ICT Faculty (including research facilities). The total cost of these projects is approximately €34 million.

- Malta has formally expressed its intent to become a founder member of BBMRI through the University of Malta, as it seeks to develop an 'expert center' with interests in the Euro-Mediterranean neighborhood.

- MCST is actively seeking to establish collaborative agreements with international research organizations such as CERN, ESA and EMBL for access to research infrastructures. A memorandum of understanding to this effect was also signed with the JRC in November 2009.

National perspective

- MT focussing primarily to build national capacity (upgrading/building new research infrastructures).
- Funding restrictions make it very difficult for small countries to actually be part of the set up or management of large-scale RI.
- Access to these infrastructures by local researchers remains of paramount importance.

ERA-PRISM Project

Full title: Policies for Research and Innovation in Small Member States to advance the European Research Area

Partners:

- *Malta Council for Science and Technology MCST* Malta
- *The University of Manchester UNIMAN* UK
- *Ministry of Education and Research HM* Estonia
- *The Icelandic Center for Research RANNIS* Iceland
- *Slovenian Research Agency SRA* Slovenia
- *Swedish Governmental Agency for Innovation Systems VINNOVA* Sweden
- *Latvian Technology Center LTC* Latvia
- *Department for Innovation, Universities and Skills DIUS* UK
- *Observatoire des Sciences et des Techniques OST* France
- *Public Research Centre Henri Tudor CHT* Luxembourg

ERAPRISM Project Concept

- Scale dependence in R&I Policy
- Challenge of broad coverage of S&T
- Effective capture of R&I capacity by scoreboards and indicators
- Adapting R&I funding frameworks
- Dependence on international collaboration
- Multi-tasking of individuals
- Peer review and evaluation
- Access to research infrastructures
- Danger of over-specialisation/ generalisation
- Markets can be too small for innovation launch
- The development, improvement and use of appropriate R&I indicators for more effective benchmarking of policies between large and small member states regardless of scale.
- The appropriate design of funding frameworks and programs
- Adapting innovative and green procurement approaches to small scale markets
- The development of an appropriate evaluation framework which takes account of small size.
- The need for mutual learning platform linking small countries

Malta and CERN

- Signed cooperation agreement between Malta and CERN in 2008
- 4 PhD students (Magnets, Collimators, ATLAS)
- 15 summer students (Physics, ICT, Engineering)
- 36 high School teachers visit
- 28 publications



Thank you