

# Researchers' Report 2013

## Country Profile: Malta



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## 1. Key data

### National R&D intensity target

“Malta's R&D intensity increased from 0.67% in 2010 to 0.73% in 2011. The significant increases in R&D expenditures in 2010 and 2011 translated into levels of expenditures which did not follow the negative trends of the previous years. This resulted in a situation where, in percentage terms, Malta has already reached and exceeded its stipulated Europe 2020 Strategy target of 0.67% of GDP. If the current trend continues Malta should reach an R&D intensity of more than 1% in 2020. The increase in R&D intensity between 2009 and 2010 was mainly due to an increase of 41% in R&D performed by the higher education sector. Funding of R&D by each of the three main sources (government, business and abroad) has increased by 20% or more between 2009 and 2010.

In spite of the economic crisis, public expenditure on R&D increased by 35.1% between 2009 and 2010. This was due to an increase of EUR 4.2 million in higher education expenditure on R&D. Government intramural expenditure on R&D decreased slightly between 2009 and 2010. Government funding of R&D has increased steadily between 2005 and 2010 at an average annual real growth rate of 7.7%. However, the government budget for R&D which increased from EUR 9.4 million to EUR 14.3 million between 2009 and 2010 has decreased by 19% between 2010 and 2011. This development is a cause for concern in view of the likely negative impact on future R&D intensity.

Malta is ranked nineteenth in the EU in terms of business enterprise expenditure on R&D as % of GDP with a value of 0.37% in 2010 compared to an EU average of 1.23%. The share of R&D performed by business enterprise in Malta has decreased from 66% in 2005 to 59% in 2010. R&D financed by business enterprise increased in real terms between 2005 and 2010 at an average annual growth rate of 6.3%. Most of Malta's business R&D is carried out by a small cluster of foreign-owned companies. 43% of R&D carried out by foreign-owned companies is performed by US owned companies.

Malta relies heavily on support from the EC Framework Programme and Structural Funds for the achievement of its R&I objectives. FP7 projects in Malta have been awarded EUR 11(1) million to date. The success rate of Maltese applicants for FP7 funding is 19.1% compared to an EU average of 22.0%. Malta will also receive around EUR 70 million for innovation and RTD from the Structural Funds 2007-2013. One of the objectives of the draft National Strategic Plan for R&I 2020 is to put in place an appropriate national framework to exploit opportunities for participation in EU R&I funding programmes”.<sup>1</sup>

### Key indicators measuring the country's research performance

The figure below presents key indicators measuring Malta's performance on aspects of an open labour market for researchers against a reference group and the EU-27 average<sup>2</sup>.

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<sup>1</sup> European Commission (2013), “Research and Innovation performance in EU Member States and Associated countries. Innovation Union progress at country level 2013”

<sup>2</sup> The values refer to 2012 or the latest year available

Figure 1: Key indicators – Malta



Source: Deloitte

Data: Eurostat, SHE Figures, EURAXESS Jobs Portal, UNESCO OECD Eurostat education survey, Innovation Union Scoreboard 2013, MORE2

Notes: Based on their average innovation performance across 25 indicators, Czech Republic, Greece, Hungary, Italy, Lithuania, Malta, Portugal, Slovakia and Spain show a performance below that of the EU-27. These countries are the Moderate innovators<sup>3</sup>.

## Stock of researchers

The table below presents the stock of researchers by Head Count (HC) and Full Time Equivalent (FTE) and in relation to the active labour force.

Table 1: Human resources – Stock of researchers

| Indicator                                       | Malta | EU Average/Total |
|-------------------------------------------------|-------|------------------|
| Head Count per 1 000 active labour force (2010) | 6.10  | 10.17            |
| Head Count (2010)                               | 1 077 | 2 435 487        |
| FTE per 1 000 active labour force (2010)        | 3.39  | 6.64             |
| Full time equivalent (FTE) (2010)               | 599   | 1 589 140        |

Source: Deloitte

Data: Eurostat

## 2. National strategies

The Maltese Government has put in place a range of measures aimed at training enough researchers to meet its R&D targets and at promoting attractive employment conditions in public research institutions. The table below presents key programmes and initiatives intended to implement the strategic objectives to train enough researchers to reach Malta's R&D targets, to promote attractive working conditions, and to address gender and dual career issues.

Table 2: National strategies

| Measure                                                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Malta's National Reform Programme Under the Europe 2020 Strategy (2011 and 2012)</b> | Malta's National Reform Programme, published by the Ministry of Finance, the Economy and Investment, contains 25 distinct new measures aimed at ensuring that Malta achieves its Europe 2020 targets. The National Reform Programme refers to the development of doctoral and postdoc funding schemes as one of the measures to increase the number of scientific researchers in the country. Seven distinct sets of |

<sup>3</sup> European Commission (2013), "Innovation Union Scoreboard 2013"

| Measure                                                                                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                         | structural reform measures are meant to address growth bottlenecks and macroeconomic imbalances, and increase Malta's competitiveness. The total outlays on these measures, which are covered by a mix of private funds, EU funds and public funds, are estimated at EUR 578 million. Among other measures, Malta's 2012 National Reform Programme reiterates the government's commitment to funding doctoral and post-doctoral scholarship schemes in order to strengthen Malta's research capacity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Malta's National Reform Programme 2008-2010 (2008)</b>                                                               | Malta's National Reform Programme 2008-10 focused on a number of issues for national competitiveness, including investing in people and modernising labour markets. The Strategy clearly defined the need for incentives to promote research, development and innovation capacity in Malta. It also promoted the need for fiscal incentives to those industries that cluster with SMEs and Higher Education Institutions and targeted the following industrial areas, among others: education, health care, ICT, bio-technology, bio-informatics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Malta's National Strategic Plan for Research &amp; Innovation - A Vision for Knowledge-Driven Growth 2020 (2011)</b> | <p>The Malta Council for Science and Technology is currently managing the preparation of the new national R&amp;I Strategic Plan 2020. The new R&amp;I Strategic Plan 2020 builds on the achievements of the R&amp;I Strategic Plan 2007-10. Among its strategic principles are:</p> <ul style="list-style-type: none"> <li>– Leveraging national funds to address national R&amp;I challenges;</li> <li>– Expanding Malta's STEM human capital base by investing in Malta's future capabilities for indigenous R&amp;I as well as increasing the attractiveness of the national system for foreign R&amp;I investment;</li> <li>– Building strong links between knowledge institutions and business, thus facilitating collaboration, joint research and transfer of knowledge, ensuring the best return on investment in new knowledge; and</li> <li>– Supporting the development of a national culture supportive of innovation, creativity, risk-taking and entrepreneurship.</li> </ul> <p>The draft National R&amp;I Strategic Plan was issued for public consultation in early December 2011. The consultation phase closed at the end of January 2012. The feedback received was reviewed and necessary updates were included in the final document. The decision on the new chapter on digital growth has also been revised. However, the draft National R&amp;I Strategic Plan is now being aligned with the requirements for Smart Specialisation, which are required as an ex-ante condition for the 2014-2020 programming period.</p> <p>This alignment is being undertaken through further consultations with the public, private and academic sector in order to identify niche areas on which Malta could focus its innovation activities further. A number of the measures proposed in the draft National R&amp;I Strategy plan may then be tailored to the requirements of the niches identified.</p> |
| <b>National Strategic Plan for Research and Innovation 2007-2010 (2006)</b>                                             | <p>The 2007-2010 R&amp;I Strategic Plan aimed to provide a framework for building and sustaining an R&amp;I-enabling framework. The measures implemented included:</p> <ul style="list-style-type: none"> <li>– Overhaul of the Malta Council for Science &amp; Technology's organisational structure and increase in staff complement (from 8.5 FTE in 2007 to just over 30 FTE in October 2011);</li> <li>– Boosting human resources in S&amp;T and increasing researcher numbers: Strategic Educational Pathways Scholarships (STEPS) (EUR 10 million ESF<sup>4</sup> project) and Malta Government Scholarship Scheme (MGSS) schemes (approximately EUR 466 000 annually through national funds) for the funding of Master and Doctorate studies undertaken both locally and abroad. On average, MGSS supports 36 scholarships annually. By October 2011, STEPS had funded 87 scholarships leading to Doctoral degrees;</li> <li>– Science popularisation campaigns through a EUR 0.58 million ESF project over a two-year-period. Two science and technology festivals as well as other events targeting science in the community were organised through</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

<sup>4</sup> European Social Fund

| Measure | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | <p>this project;</p> <ul style="list-style-type: none"> <li>– Work towards establishing bilateral agreements and collaborative initiatives with international scientific organisations (e.g. CERN<sup>5</sup>, ESA<sup>6</sup> and EMBL<sup>7</sup>), including possible access to research infrastructures;</li> <li>– Awareness-raising on the importance of patents and support for SMEs to identify IP<sup>8</sup> opportunities through the IP check-up diagnostic service; and</li> <li>– Financial support for researchers to participate in brokerage events in the priority areas of research.</li> </ul> |

Source: Deloitte

### 3. Women in the research profession

#### Measures supporting women researchers in top-level positions

In Malta, the National Commission for the Promotion of Equality (NCPE) was set up in 2004 and since then it has acted as an autonomous government-funded organisation, which monitors the application of equality legislation. The primary task of NCPE is to monitor the implementation of the Chapter 456 Equality for Men and Women Act that came into force in December 2003 and to promote equality in spheres where it may be lacking. The Commission works to ensure that Maltese society is a society free from any form of discrimination based on gender or family responsibilities in all sectors and at all levels in relation to training and employment, and the provision of services and benefits. The Commission also works to ensure that there is no discrimination based on racial and/or ethnic origin in the provision of goods and services.

However, there are currently no initiatives specifically targeting the research profession. Gender issues in Research, Development and Innovation in general, were discussed and analysed in the context of the preparation of the new National R&I Strategic Plan 2020.

#### Measures to ensure a representative gender balance

In Malta, there are no quotas, targets or other measures in place to ensure gender balance in research careers and in selection/evaluation committees for engagement of researchers.

#### Maternity leave

In the case of the MGSS and STEPS scholarship schemes, there is no specific mention of provision for maternity leave. However, section 14.25 of the MGSS Regulations (2011) indicates that women researchers are allowed to go on maternity leave, thus interrupting and extending their studies. The Regulations state that “in special and valid circumstances that may arise, scholarship awardees may ask the MGSS Board to review the date of completion of their scholarship specifying the reason for such extension. Each case will be considered on its own merits”.

On the other hand, the Regulations also indicate that when a programme of studies is extended, no additional funding will be allocated in addition to the amount originally established.

As of 2012, there had been no requests by MGSS or STEPS beneficiaries for maternity leave.

### 4. Open, transparent and merit-based recruitment

#### Recruitment system

The University of Malta has its own recruitment system. This is regulated by Collective Agreement (2009-13) and by subsidiary regulations. Maltese public institutions fall into two categories, which follow different regulations and procedures:

1. The Public Service: government ministries and departments, which are generally bound by strict regulations; and
2. The Public Sector: government entities, which are not ministries or departments, and which enjoy a degree of procedural autonomy. These are corporations and authorities set up by law, companies set

<sup>5</sup> European Organisation for Nuclear Research

<sup>6</sup> European Space Agency

<sup>7</sup> European Molecular Biology Laboratory

<sup>8</sup> Intellectual Property

up as Public Limited Companies, foundations set up by notarial deeds, agencies set up either by act or legal notice, or by virtue of the Public Administration Act, and “bodies” set up by the Government according to the Constitution.

Recruitment to the Maltese Public Service is carried out in accordance with Article 110(1) of the Constitution of Malta and is based on merit. Recommendations for the appointment or promotion of public officers are made by the Public Service Commission (PSC), an autonomous body appointed in accordance with the Constitution of Malta. The Constitution assigns to the Commission responsibility for staffing and discipline in the Public Service. One of the main functions of the PSC is the protection of merit.

The recruitment and selection process leading to the appointment of public officers in any grade or position within the Public Service is regulated by the Public Service Management Code (PSMC) and is carried out in accordance with procedures outlined in Sections 1.1.6 and 1.1.7 of the Code<sup>9</sup>.

Recruitment to public sector entities is carried out in accordance with Article 110(6) of the Constitution of Malta and in accordance with the ETC Act, i.e. through the national employment agency or through a public advertisement. Public sector entities establish their own recruitment and selection procedures. As a general rule, however, it is always recommended that public sector entities follow the procedures applicable to the Public Service in order to ensure open, transparent and merit-based competition.

### Open recruitment in institutions

The table below presents information on open recruitment in higher education and public research institutions.

**Table 3: Open recruitment in higher education and public research institutions<sup>10</sup>**

| Do institutions in the country currently have policies to ...?       | Yes/No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| – <b>publish job vacancies on relevant national online platforms</b> | Yes    | <ul style="list-style-type: none"> <li>– The University of Malta advertises its vacancies online on its own website while its job vacancies are available through EURAXESS;</li> <li>– There are no plans at present to publish public service and public sector jobs on EURAXESS.</li> </ul> <p>A) Public Service vacancies are published as follows<sup>11</sup>:</p> <ul style="list-style-type: none"> <li>I. on the Government Recruitment Portal (<a href="http://recruitment.gov.mt/">http://recruitment.gov.mt/</a>);</li> <li>II. on the Department of Information website (<a href="http://www.doi.gov.mt">www.doi.gov.mt</a>) in the case of public calls for applications;</li> <li>III. on the Public Service intranet (<a href="http://intra.gov.mt/">http://intra.gov.mt/</a>) in the case of internal calls for applications, that is, calls open to serving public officers;</li> <li>IV. on departmental notice boards.</li> </ul> <p>B) Public sector research vacancies are published online together with other public sector vacancies as follows:</p> <ul style="list-style-type: none"> <li>I. on Malta’s public employment agency website, the Employment and Training Corporation (<a href="http://www.etc.gov.mt">www.etc.gov.mt</a>);</li> <li>II. in the Government Gazette which is published online and is openly available;</li> <li>III. on the Department of Information website (<a href="http://www.doi.gov.mt">www.doi.gov.mt</a>);</li> <li>IV. generally in addition on the recruiting institution’s</li> </ul> |

<sup>9</sup> For more information, see <http://pahro.gov.mt/employee-psmc?!=1>

<sup>10</sup> Information provided in this table refers to the University of Malta, which is by far the largest player in Higher Education R&D (HERD) in Malta. Information is also given about the recruitment procedure for researchers (inter alia) in the Government Sector (public sector and public service), thus covering the Government Sector R&D (GOVERD)

<sup>11</sup> Sections 1.2.12 and 9.1.1.4 of the Public Service Management Code (PSMC) give an outline of the procedures to be followed for the dissemination of information regarding job vacancies

| Do institutions in the country currently have policies to ...?                                                                                               | Yes/No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                              |        | own website.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| – <b>publish job vacancies on relevant Europe-wide online platforms (e.g. EURAXESS)</b>                                                                      | Yes/No | <ul style="list-style-type: none"> <li>– The EURAXESS portal is directly linked to the University of Malta vacancies' webpage;</li> <li>– Public Service and Public Sector research vacancies are not published on Europe-wide platforms.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| – <b>publish job vacancies in English</b>                                                                                                                    | Yes    | Both the University of Malta and the Public Service publish job vacancies in both Maltese and English.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| – <b>systematically establish selection panels</b>                                                                                                           | Yes    | <ul style="list-style-type: none"> <li>– The University of Malta establishes selection panels according to its internal Guidelines as issued by the University Council.<sup>12</sup>;</li> <li>– The PSC Regulations provide for the setting up of Ministerial Standing Selection Panels (SSPs) made up of retired public officers and other members of the general public. This procedure is in line with the principles of openness, transparency and inclusion.</li> <li>– The Head of Department may appoint a Selection Board, consisting of a Chairperson and at least two members, from amongst the persons forming part of the Ministerial SSP and/or serving public officers, provided that each Selection Board includes at least one serving public officer. This process is carried out concurrently with the publication of the call for applications.</li> </ul> |
| – <b>establish clear rules for the composition of selection panels (e.g. number and role of members, inclusion of foreign experts, gender balance, etc.)</b> | Yes    | <ul style="list-style-type: none"> <li>– The University of Malta has established clear rules for the composition of selection panels which are issued by its Council;</li> <li>– The Public Service has clear rules for the composition of selection panels, as to the number, role and level of expertise. The Public Service Management Code states that, as far as possible, selection panels should include members of both genders. In the case of Public Sector research institutes, guidelines on composition of selection panels may or may not exist.</li> </ul>                                                                                                                                                                                                                                                                                                      |
| – <b>publish the composition of a selection panel (obliging the recruiting institution)</b>                                                                  | No     | <ul style="list-style-type: none"> <li>– The University of Malta publishes guidelines for the composition of selection panels on its website, but the names of the selection panel members are not published;</li> <li>– The Public Service Management Code (which establishes the guidelines for the composition of selection panels) is available online, but the names of selection panel members are not published.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| – <b>publish the selection criteria together with job advert</b>                                                                                             | No     | <ul style="list-style-type: none"> <li>– The University of Malta does not publish the selection criteria together with job adverts on its website;</li> <li>– The Public Service has clear rules for the formulation of selection criteria, but these are not generally made public. The selection criteria are proposed by the head of department prior to the publication of the call for applications and are approved by the PSC.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                               |
| – <b>regulate a minimum time period between vacancy publication and the deadline for applying</b>                                                            | Yes    | <ul style="list-style-type: none"> <li>– The University of Malta establishes a minimum time period between vacancy publication and the deadline for applying according to its internal regulations.</li> <li>– The Public Service establishes a minimum time period of fifteen (15) working days. In the case of the Public Sector, the minimum time period is established by internal regulations.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| – <b>place the burden of proof on the employer to prove that the recruitment procedure was open and transparent</b>                                          | Yes    | – University of Malta's recruitment procedure is open and transparent and, therefore, the applicant may seek written clarification of a selection outcome from the University within 10 days of the results being posted. If the applicant is                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

<sup>12</sup> Available at: [www.um.edu.mt/hrmd/services/recruitment](http://www.um.edu.mt/hrmd/services/recruitment)

| Do institutions in the country currently have policies to ...? | Yes/No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                |        | still not satisfied, he/she may turn to the University Ombudsman <sup>13</sup> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| – offer applicants the right to receive adequate feedback      | Yes    | <ul style="list-style-type: none"> <li>– In the case of Public Service vacancies, heads of department are bound by the PSC Regulations. Regulation 12 stipulates that vacancies are to be filled according to the overriding principles of merit and open and transparent competition. In the exercise of their duties, heads of department are subject to the scrutiny of the PSC, which ensures that such principles are adhered to.</li> <li>– The University of Malta's recruitment procedure offers applicants the facility to request feedback.</li> <li>– Applicants may request a breakdown of the marks they were awarded under the various assessment criteria and sub-criteria.</li> </ul> |
| – offer applicants the right to appeal                         | Yes    | Candidates have the right to appeal the decision of the selection board.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

Source: Deloitte

### EURAXESS Services Network

In 2012, the number of researcher posts advertised through the EURAXESS Jobs portal per thousand researchers in the public sector was 15.5 in Malta compared with 22.7 among the Innovation Union reference group and an EU average of 40.8<sup>14</sup>.

Information on entry conditions, transfer of social security and pension contributions, accommodation and administrative assistance is generally available on relevant Government websites. The EURAXESS national portal also includes links to relevant web pages.

Researcher positions at the University of Malta are published online on the University's website. Academic posts (approximately one third are dedicated to research activity) are also advertised on the University of Malta website; they are also accessible via the EURAXESS Jobs portal.

Research positions in other publicly funded institutions are also published online on the website of Malta's public employment agency, the Employment and Training Corporation ([www.etc.gov.mt](http://www.etc.gov.mt)) and on the Department of Information website ([www.doi.gov.mt](http://www.doi.gov.mt)) and in the Government Gazette.

## 5. Education and training

### Measures to attract and train people to become researchers

The table below summarises key policy measures implemented to increase the number of researchers.

Table 4: Human Resources - Key programmes and initiatives

| Measure                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Malta Government Scholarship Scheme (MGSS) (2006 - ongoing)</b> | The Malta Government Scholarship Scheme provides scholarships to individuals wishing to pursue undergraduate or postgraduate studies both in Malta as well as overseas. The source of funding is national. It is expected that this scheme will continue for the foreseeable future. A total of 254 scholarships for Master and Doctorate studies were awarded between 2006 and 2011.                                                                                  |
| <b>National Interactive Science Centre (planned)</b>               | The Government is currently developing and implementing Malta's first National Interactive Science Centre (NISC). Work started in 2010 and the NISC is due to open its doors in 2015. The main goal of the NISC is to bring science closer to the general public and aid in increasing the take-up of science subjects at secondary level through a novel way of presenting science. The NISC project is co-financed by the European Regional Development Fund (ERDF). |
| <b>National Research and Innovation Programme (2004 - onwards)</b> | The National Research and Innovation Programme provides grants <sup>15</sup> to academia and industry working together, to fund research projects. Academics who obtain                                                                                                                                                                                                                                                                                                |

<sup>13</sup> See Guidelines as issued by University Council: [www.um.edu.mt/hrmd/services/recruitment](http://www.um.edu.mt/hrmd/services/recruitment)

<sup>14</sup> See Figure 1 "Key indicators – Malta"

| Measure                                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                               | funds through this programme regularly employ research officers who often work towards obtaining their doctorate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Researchers' Night (annually)</b>                                          | Malta has on many occasions organised 'Researchers' Night' events providing interactive science entertainment for children and the general public. A number of discussions aim to engage youths and adults in subjects such as human behaviour and the mysteries of the human mind, saving money while saving energy and the planet, or applying science to creativity. Researchers set out the topic for discussion and the public is encouraged to question and debate with the scientists in several Science Cafés.                                                                                                                       |
| <b>Science Centre (ongoing)</b>                                               | The Government maintains a Science Centre for secondary school students. The centre is open to visits by both public and private schools. The Science Centre, within the Ministry for Education, hosts the education officers responsible for Biology, Chemistry, Physics and Science in primary schools. It also serves as the meeting place for peripatetic teachers who are involved with primary school science teaching. The Centre provides science resources and equipment for loan to primary schools and implements on a regular basis a programme of professional training for teachers. The Science Centre is an on-going set up. |
| <b>Science Festivals (annually) (2009-2010)</b>                               | Science festivals for the general public and related promotional activities were held intermittently between 1988 and 2008. In 2009 and 2010, the government organised larger scale science festivals as well as other events (such as mini-festivals in specific localities) through the European Social Fund funding support. The National Interactive Science Centre is a follow-up to the Science Festivals which ended in 2010.                                                                                                                                                                                                         |
| <b>Strategic Educational Pathways Scholarships (STEPS) Scheme (2009-2012)</b> | The Strategic Educational Pathways Scholarships Scheme provided scholarships to individuals wishing to pursue postgraduate studies, both in Malta as well as overseas. It was funded through the EU Structural Funds (the European Social Fund) for the financial period 2007-13. The Malta Government Scholarship Scheme (MGSS), which was launched in 2006, continues to fund applicants who wish to pursue a doctoral degree. Funds were increased in 2012 and 2013.                                                                                                                                                                      |
| <b>University of Malta Trust Fund (2011)</b>                                  | The University of Malta endeavours to provide junior academic staff (assistant lecturers) with the opportunity and with assistance to obtain a PhD. Obtaining a doctorate is a prerequisite to promotion to the grade of lecturer and to further promotion. In 2011, the University of Malta Trust Fund was created with the injection of EUR 0.5 million of government funds to fund research, development and innovation. Once fully operational, it is expected to contribute to the creation of researcher positions as well as an increase in the number of researchers.                                                                |

Source: Deloitte

### Doctoral graduates by gender

The table below shows doctoral graduates in Malta by gender as a ratio of the total population cohort.

**Table 5: Doctoral graduates by gender**

| Indicator                                                                       | Malta | EU Average |
|---------------------------------------------------------------------------------|-------|------------|
| <b>New doctoral graduates (ISCED 6) per 1 000 population aged 25-34 (2010)</b>  | 0.2   | 1.5        |
| <b>Graduates (ISCED 6) per 1 000 of the female population aged 25-34 (2010)</b> | 0.1   | 1.4        |
| <b>Graduates (ISCED 6) per 1 000 of the male population aged 25-34 (2010)</b>   | 0.3   | 1.6        |

Source: Deloitte

Data: Eurostat

### Funding of doctoral candidates

The table below presents the two different funding paths accessible to Maltese doctoral candidates.

**Table 6: Funding opportunities for doctoral candidates<sup>15</sup>**

| Funding scheme     | Description                                                                                                                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fellowships</b> | In Malta, the number of funded doctoral candidates was 215 (68%) while 103 (32%) were unfunded. The four categories of funding are:<br>1. Funding from a Maltese institution: the MGSS and STEPS programmes; |

<sup>15</sup> Examples of grants are available at: <http://www.mcst.gov.mt/national-funding/ri-programme/funded-ri-projects>. The size of the grants awarded ranges between EUR 50 000 and EUR 200 000

<sup>16</sup> Estimates are based on 2008-2009 data

| Funding scheme              | Description                                                                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | <ol style="list-style-type: none"> <li>2. Scholarships and grants from abroad;</li> <li>3. Teaching or research assistantship;</li> <li>4. Employer assistance.</li> </ol>                                 |
| <b>Employment contracts</b> | In Malta, it is estimated that 8-9% of doctoral candidates obtain their doctorate based on having signed an employment contract (e.g. research assistantships or employment with the University of Malta). |

Source: Deloitte

### Measures to increase the quality of doctoral training

The Maltese Government has not put in place any measures to increase the quality of doctoral training.

### Skills agenda for researchers

The Maltese government has not developed a specific Skills' Agenda. However, the University of Malta is participating in a European Social Fund project that will result in offering a Masters' course in entrepreneurship as well as in establishing a Business Incubation Centre at the University.

The draft R&I Strategic Plan 2020 takes this objective into consideration and promotes a number of measures such as<sup>17</sup>:

- “Formal researcher training (at Master or Doctorate level) should include training on issues such as information seeking and management, entrepreneurship, patenting, networking skills and exposure to the industry world among others”;
- “Formal education should put strong emphasis on numeracy, literacy and thinking skills as the basic tools needed by the students to progress successfully in their education”; and
- “Students should be encouraged to participate in national and international science projects and competitions which build their creative and entrepreneurial skills”.

## 6. Working conditions

### Measures to improve researchers' funding opportunities

The Malta Council for Science and Technology provides support to researchers to participate in Seventh Framework Programme for Research (FP7) projects. See also chapter 5 “Education and training”.

### Remuneration

The University of Malta has, until now (2013), had few positions for full-time researchers and the organisation was based predominantly on academic positions. However, the new Collective Agreement<sup>18</sup> introduced the concept of a research stream into the hierarchy, with the creation of posts for full-time researchers. These posts will not be permanent positions, but based on a defined term contract. The new Collective Agreement also introduced opportunities for full-time academic staff to avail themselves of sabbatical leaves, which may be dedicated to research or other activities.

### Researchers' Statute

The Maltese Government does not provide a 'statute' or equivalent for researchers.

### The European Charter for Researchers' & the 'Code of Conduct for the Recruitment of Researchers'

The Maltese Government has not yet actively promoted the implementation of the 'Charter & Code' by research institutions and funders. It is in the process of identifying measures to promote its adoption. However, many of the provisions of the 'Charter & Code' are being implemented by the institutions.

### Autonomy of institutions

Malta has only one public University, the University of Malta. The University of Malta enjoys the required autonomy to establish its preferred profiles and associated remuneration levels of the academic staff. However, the funding of the University of Malta is predominantly based on government funding, which

<sup>17</sup> The Malta Council for Science and Technology (2011), Malta's National Strategic Plan for Research & Innovation - A Vision for Knowledge-Driven Growth 2011-2020, Draft for Public Consultation - December 2011, p. 61 (Recommendations)

<sup>18</sup> 2009 Collective Agreement for Academic Staff

imposes a degree of limitation on the numbers and remuneration levels of the academic staff, including researchers.

The Maltese Government provides autonomy to the rest of the institutions to allow for a differentiation of researchers' salaries. However, in practice, salaries of academic staff and researchers are linked to the job grade, with prospects of promotion based on the number of publications, citations and so on.

### Career development

The University of Malta has developed a career stream for researchers. In addition, academic members of staff have a clear career progression from assistant lecturer all the way up to professor level, and they are contractually bound to undertake research activities for one third of their time.

### Shift from core to project-based funding

In Malta, the shift from core to project-based (short-term) research funding does not have an impact on researchers' working conditions.

### Social security benefits (sickness, unemployment, and old-age)

In Malta, all publicly funded fellowships, stipends, grants or equivalent provide sickness benefits (for temporary illness) for researchers in the case for normal employment as defined and ruled by the 'Employment and Industrial Relations Act' and related legislation.

The grant schemes (MGSS and STEPS) provide funding for the beneficiary to enrol at a University as a student for a limited period (normally for a maximum of three years). However, they do not include explicit provision for contribution to social security (including unemployment and old-age benefits).

Any unemployment benefits that a researcher qualifies for would depend on employment history rather than on the grant scheme.

## 7. Collaboration between academia and industry

The following table summarises programmes designed to boost collaboration between academia and industry, and to foster doctoral training in cooperation with industry.

**Table 7: Collaboration between academia and industry**

| Measure                                                                                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Loan of Highly Qualified Personnel' Scheme (2009-ongoing)</b>                                                              | Malta Enterprise operates a 'Loan of Highly Qualified Personnel' Scheme, which provides SMEs with a cash grant to hire specialised personnel temporarily. Such personnel would typically come from the academic sector. SMEs can benefit from the taking on a highly qualified expert temporarily to work on R&D&I projects. In this way, SMEs can access new knowledge and increased innovation capabilities. The expert helps the SMEs carry out Industrial Research and Experimental Development Projects. Malta Enterprise <sup>19</sup> can provide part financing of the costs directly related to the secondment of highly qualified personnel from a research organisation or large enterprise. These costs may consist of wages paid by the SME to seconded personnel or fees charged by the research institute or large undertaking for such a secondment.       |
| <b>Malta's draft National Strategic Plan for Research &amp; Innovation - A Vision for Knowledge-Driven Growth 2020 (2011)</b> | The draft new R&I Strategic Plan 2020 pays special attention to "applied research and the emphasis on commercialisation of research results by fostering more collaboration between academia and industry". The draft Strategic Plan puts forward several incentive schemes to increase the intensity of R&I activities in Malta. These schemes aim to help enterprises invest in R&D activities by supporting the pre-R&D activities necessary to develop and test the concepts of the envisaged research project by: <ul style="list-style-type: none"> <li>– Supporting industrial research and experimental development activities;</li> <li>– Supporting interactions between large companies and SMEs and also between industry and the research institutions; and</li> <li>– Supporting SMEs in the patent registration of successful research projects.</li> </ul> |

<sup>19</sup> 'Malta Enterprise' is the agency responsible for the promotion of foreign investment and industrial development in Malta. Malta Enterprise also provides support to industry to participate in the FP7 Exploratory Award Scheme. This provides assistance, in the form of a grant to help SMEs develop project proposals for submission in reply to FP7 calls

| Measure                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Research and Innovation Programme (2012)</b> | The Malta Council for Science and Technology provides state financing in the form of grants for research, development and innovation in science and technology through the National R&I Programme. The National Research and Innovation Programme has as one of its eligibility conditions that proposals may only be submitted by consortia involving both academia and an industry partner, leading to better links between these two sectors. The focus of the programme is applied research and technology transfer between academia and industry, with a specific focus on the four priority sectors identified in the National R&I Strategy, namely Environment & Energy Resources, ICT, Value-Added Manufacturing and Health & Biotechnology. |

Source: Deloitte

## 8. Mobility and international attractiveness

In 2010, the percentage of doctoral candidates (ISCED 6) with citizenship of another EU-27 Member State was 4.1% in Malta compared with 4.9% among the Innovation Union reference group and an EU average of 7.8%<sup>20</sup>. In the same year, the percentage of non-EU doctoral candidates as a percentage of all doctoral candidates was 4.1% in Malta compared with 5.3% among the Innovation Union reference group and an EU average of 20.0%<sup>21</sup>.

### Measures aimed at attracting and retaining 'leading' national, EU and third country researchers

The Maltese Government has not put in place any measures to attract and retain leading national, EU and third-country researchers.

### Inward mobility (funding)

The Maltese government has fully implemented the Council Directive 2005/71/EC on a specific procedure for admitting third-country nationals for the purposes of scientific research (the Scientific Visa Directive).

### Outbound mobility

Academic staff at the University of Malta may avail themselves of a sabbatical to spend time as a researcher in another country.

The STEPS programme provides funding for doctoral candidates to pursue studies either in Malta or overseas. However, the objective of this programme is to increase the number of doctoral candidates and there are no specific mobility objectives.

The Malta Government Scholarship Scheme (MGSS Scheme) supports those students who opt to conduct part of their assignment at world-renowned research institutes.

### Promotion of 'dual careers'

The Maltese Government does not actively promote policies/measures supporting researchers' dual careers.

### Portability of national grants

In Malta, publicly funded grants under the National R&D Programme are not portable abroad; however, fellowships and scholarships under MGSS and STEPS are portable abroad.

### Access to cross-border grants

Foreign researchers are eligible to participate in projects funded under the National R&I Programme, without, however, being eligible to receive funding.

<sup>20</sup> See Figure 1 "Key indicators – Malta"

<sup>21</sup> Ibid