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**Monitoring and analysis of policies
and public financing instruments
conducive to higher levels of R&D investments
The “POLICY MIX” Project**

Country Review Malta

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Introduction and Policy mix concept

The policy mix project

This report is one of the 31 country reviews produced as internal working papers for the research project “Monitoring and analysis of policies and public financing instruments conducive to higher levels of R&D investments” (Contract DG-RTD-2005-M-01-02, signed on 23 December 2005). This project is a research project conducted for DG Research, to serve as support for policy developments in Europe, notably in the framework of CREST activities. It does not form part of the ERAWATCH project, but the working documents are made available on ERAWATCH webpages for the purpose of steering a debate on the policy mix concept.

The “Policy Mix” project is run by a consortium of 7 partners:

- UNU-MERIT (The Netherlands), consortium leader
- Technopolis (The Netherlands)
- PREST – University of Manchester (United Kingdom)
- ZEW (Germany)
- Joanneum Research (Austria)
- Wiseguys Ltd. (United Kingdom)
- INTRASOFT International (Luxembourg).

Each country review is produced by an individual author, and provides expert’s view on the policy mix in the country. This report is not approved by the Commission or national authorities, and is produced under the responsibility of its author.

The role of country reviews is to provide an exploratory analysis of the current policy mixes in place in all countries and detect the most important areas of interactions between instruments as well as new modes of policy governance that are particularly adapted (or detrimental) for the building of policy mixes. They provide analytical material for the analysis of the policy mix concept and its implementation in Europe. This material will be used as background for further reports of the project and for the construction of a tool for policy-makers (to be made available in late 2007 and 2008).

The policy mix concept

The country reviews are based on the methodological framework produced by the consortium to frame the “policy mix” concept. They have been implemented on the basis of expert assessments derived from the analysis of National Innovation Systems characteristics and policy mix settings, using key information sources such as Trendchart and ERAWATCH reports, OECD reviews, and national sources, among which the National Reform Programmes.

In this work, the “policy mix for R&D” is defined by the consortium as: **“the combination of policy instruments, which interact to influence the quantity and quality of R&D investments in public and private sectors.”**

In this definition, policy instruments are: “all programmes, organisations, rules and regulations with an active involvement of the public sector, which intentionally or unintentionally affect R&D investments”. This usually involves some public funding, but not always, as e.g. regulatory changes affect R&D investments without the intervention of public funds.

Interactions refer to: “the fact that the influence of one policy instrument is modified by the co-existence of other policy instruments in the policy mix”.

Influences on R&D investments are: “influences on R&D investments are either direct (in this case we consider instruments from the field of R&D policy) or indirect (in that case we consider all policy instruments from any policy field which indirectly impact on R&D investments)”.

Structure of the report

The report is structured along the following questions.

First, in section 1, and in order to place the policy mix in context, the general challenges faced by the National Innovation System (NIS) are analysed by the expert. The view is here not restricted to the challenges with regard to raising R&D investments, but rather encompasses all the conditions that directly or indirectly affect the functioning of the NIS and R&D expenditures. These context conditions are very important for the discussion of the relevance of the policy mix later on.

Second, the stated main objectives and priorities of R&D policy in the country are spelled out in section 2, as well as their evolution over the last ca. five years. This discussion is based on White Papers and official documents, i.e. on published policy statements. The reality of these objectives compared to actual working of policy instruments will appear in section 5.

The third section provides an expert assessment and critical analysis of a possible gap or convergence between the NIS challenges and the main policy objectives and priorities stated before. |

Section 4 presents the policy mix in place, following the above definition, i.e. policy instruments affecting R&D activities in the private and in the public sector, either directly for instruments from the R&D policy domain, but also indirectly for instruments outside the R&D domain which are of particular relevance to R&D activities. A typology of instruments is used, to categorise the R&D-specific and non-R&D specific instruments. A short description of each instrument is provided: aim, nature, target group, budget.

Then, section 5 discusses whether there is a gap between the main policy objectives and priorities stated in section 2, and the instruments in place. This is done by

comparing the set of objectives with the set of instruments at work. When individual evaluations of programmes or policy instruments are available, their results are used if they shed light on contribution of these instruments towards the policy objectives.

Section 6 discusses the orientation of the policy mix, indicating priorities amongst various possible routes to increase R&D investments. Policy instruments are categorised under 6 different routes according to their relevance, and this categorisation is followed by a discussion on the range of instruments affecting each route, missing instruments, routes that are not addressed by instruments, possible redundancies or overlaps, etc.

Section 7 provides another view on the policy mix, focusing on the relative importance of each types of instruments. The aim is to get a picture of the policy mix, the balance between (sets of) instruments, and the relative weight between them.

From section 8 onwards, the review turns to the crucial question of policy governance. That section discusses the emergence of the policy mix through examination of the following question: how did the set of R&D policy instruments arrive ? What is the rationale behind them, what were the driving force behind their establishment, and how is this evolving recently. A crucial question relates to the existence of some consideration of possible interactions when establishing new or suppressing existing instruments. The section tries to establish whether the policy design process is incremental or radical, analytical or non-analytical. From this, that section discusses if the policy mix is a “construct” or an “ex post” reality.

The next section, section 9, focuses on the governance of the system of R&D policy instruments take place. It examines the key question of interactions, i.e. whether there is a form of co-ordination between R&D policy and policy instruments from outside the R&D domain, and the existing mechanisms that favour or hinder such interactions.

The final section, section 10, deals with the core question of the policy mix concept: it endeavours to discuss interactions between policy instruments to affect R&D expenditure. The section discusses possible positive, neutral and negative effects of R&D policy instruments; both within the R&D policy domain, but also with instruments from other policy domains. In most cases, this takes the form of hypotheses rather than hard evidence.

Feedback welcome

Feedback on this report is gladly received. Individual country reports will not be updated but discussion on policy mixes is welcome during the timeframe of the study (2006-2008). Please send your comments to:

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1 National Innovation Systems Challenges

Malta has made substantial progress over the last year in developing more coherent and joined-up research and innovation policy approaches as reflected in the new National R&I Plan adopted by Government last year. Among the key challenges currently faced is the need now to move to implementation of the Plan's recommendations which cover a range of supply-side and demand-side measures. The start-up of all the new measures is currently underway but requires a focus of efforts to identify appropriate good practices in EU member states for their design and implementation tailored to the Maltese context. The measures include the dedication of a substantial proportion of EU Structural Funds for R&I (2007-2013) with the introduction of new research funding and scholarships and fellowship schemes targeting the four areas of national priority (environment and energy, ICT, biotech/health and value-added manufacturing). Other measures include public procurement for R&I, R&I Planning in key government and public entities and the introduction of on-line capture of R&I indicators. A major initiative underway includes the further development of the Euro-Mediterranean Institute for Technology and Innovation.¹ The design and implementation of each of these measures and initiatives entails its own particular challenges but they share a common set of needs including improved investments in R&I skills among policy-makers (another recommendation of the Plan), shared competencies and more in-depth dialogue between the relevant public entities, the leveraging of public funds and reducing bureaucratic time lags in accessing national and EU funds.

The National Innovation System is thus currently undergoing a major process of change and catching up unprecedented in the last five years with the key output of increasing R&I intensity and capacity by leveraging resources and competencies. In this context, a broader challenge affecting the NIS system is in ensuring appropriate dovetailing of change processes underway at many different levels and sectors, in particular the University and Higher Education reform and Malta Enterprise's work on a national innovation strategy through its ongoing RIS project (MARIS). Efforts are in hand to address the need for increased dialogue and networking to improve the synchronisation of new strategies being developed. MCST is addressing this concern by organising a series of workshops in 2007 which will focus on the dovetailing of the RIS strategy and the University and Higher Education changes processes. A key outcome of these efforts will be the development of a standalone national innovation policy which will identify good practices on innovation measures introduced by member states and mapped through the Trendchart .

The national Innovation policy will focus on underpinning the National R&I Plan through sector-specific innovation analysis to ensure appropriate targeting of national investments and effective policies, strategies and measures.

The four key challenges are:

- To develop and implement a stand-alone national innovation policy

¹ <http://www.mcst.org.mt/events/20060302/EuroMedITI%20Executive%20Summary.pdf>

- To increase financial and human resources in R&I and R&I Policy
- To develop sector-specific innovation policies, strategies and measures
- Appropriate innovation policy coordination framework

2 Objectives and priorities of R&D policy

The key objectives and priorities of R&D Policy MCST as defined in the new National Strategic Plan for Research and Innovation 2007-2010 ² are the following:	
1.	<p>Addressing National Issues</p> <p>The Government must leverage State R&I funding to address pressing national priorities relating to water, energy and the environment.</p>
2.	<p>Focusing on Selected Areas of Economic Performance</p> <p>Government must focus its resources, energies and abilities towards a select number of value added economic sectors in order to obtain value added R&I.</p>
3.	<p>Enabling SMEs to Innovate</p> <p>The appropriate supporting framework must be put into place at the earliest to enable SMEs to innovate and flourish.</p>
4.	<p>Exporting Locally Generated R&I</p> <p>Government should facilitate the establishment of an enabling platform that will allow Maltese enterprises in partnership with overseas institutions and business to enhance imported know-how and technology for exportation in the Southern Mediterranean region.</p>
5.	<p>Expanding Malta's Science, Engineering and Technology Human Capital Base</p> <p>The Government's mainstream strategic objective is to establish the appropriate platforms</p>
6.	<p>Establishing the Nexus between the Knowledge Institutions and Business</p> <p>The appropriate mechanisms for business-to-academia nexus is paramount in order that R&I flourishes.</p>
7.	<p>Developing a National Pro-Innovation Culture Supportive of Invention, Risk-Taking and Entrepreneurship</p> <p>The Government together with key stakeholders should assume a leading role in inculcating a culture that is supportive of invention, risk-taking and entrepreneurship</p>

The main changes to the National R&D Policy over the last five years relate to:

- § More systematic approaches to policy formulation including open consultation processes and foresight approaches
- § Less emphasis on research per se and more focus on research as the means to development and innovation
- § Over the last year, strong business-orientation to R&D Policy balanced with due attention to national government priorities, such as energy, environment and water.
- § Shift from public R&D investments in any area to the targeting of four key sectors in order to generate critical mass: Energy and Environment,

² <http://www.mcst.org.mt/RI%20executive%20summary.pdf>

Health/Biotech, Value-Added Manufacturing and ICT, in an effort to focus on niche areas of existing strength and emerging opportunities.

- § More joined-up inter-ministerial approaches to allow for greater coherence
- § Extension of scope to address a broader range of measures, both direct and indirect.

Of the list presented above, the top five priorities are:

- a) Expanding the Science, Engineering and Technology Human Capital Base**
- b) Strengthening Knowledge Institutions-Business links**
- c) Developing an Innovation culture**
- d) Targeting selected areas of economic performance**
- e) Exporting locally-generated R&I**

The first priority is clearly the need to increase the number of young people taking up studies and careers in science, technology, engineering and innovation. The ongoing investment in skills and learning is equally critical as the basis for the other priorities. There is a need to ensure that knowledge and research is oriented more to business realities and needs and thus business-academia links are critical.

Malta has an untapped innovation culture which needs to be given more prominence and a sounder base in terms of training and knowledge sources. For a small country, the targeting of investments to ensure sufficient critical mass through concentration is critical. We need to explode the myth that we are too small to generate and export local R&I.

3 Coherence between NIS challenges and R&D objectives and priorities

With the progress which has been achieved in 2006 in setting down the main objectives and priorities in the National R&I Plan, the gap between the NIS challenges and the main objectives and priorities can be seen as narrowing, especially as implementation of the Plan is already underway. The coherence between NIS challenges and the R&D objectives and priorities is thus not a matter of concern. There are a number of important factors which need to be kept in mind:

- The key challenge of increasing financial and human resources in R&I and R&I Policy is addressed in the new Plan's objectives and priorities. Government has approved the requested substantial increase of funding, but the high proportion being allocated through the next round of Structural Funds will entail delays in start-up and issues of sustainability.
- The challenge of developing more sector-specific R&I policies, strategies and measures is addressed in the new R&I Plan through the setting up of the Platforms of Strategic Importance in the key priority areas. Work will start on these through a number of schemes to be launched throughout 2007.
- § Further definition of the measures and schemes to be introduced in 2007 is expected in the coming months and this will allow a better assessment of gaps in R&I policy which may emerge. .
- § The new national Strategic Plan for R&I (2007-2010) depends on the increased coherence and coordination of policies across different Ministries and public entities. There are indications that due to MCST's enhanced profile at the Office of the Prime Minister that this new framework of joined-up policies is emerging.
- § Further work needs to be done to specify targets for private sector spending on R&D as a percentage of GDP and the planned introduction of the on-line facility for companies to report on their spending will facilitate this process.

4 Composition of the policy mix for R&D

Table 1: Policy mix for R&D in Malta

Policy categories	Policy instruments: short description and target group
R&D Domain	
R&D policy generic	The National R&I Programme 2006 provides financial support aimed at promoting and building a culture for continuous scientific research and innovation in academia and industry.
R&D policy sectoral	The National R&I Programme 2006 is now focused on four key priority areas: 1) Environment and energy resources: with focus on solar, wind and bio energy together with energy efficiency technologies, as well as water, desalination, waste rehabilitation technologies, soil and marine management. 2) ICT: with focus on software development related to bridging technologies in security, hardware, telecommunications, health, marine and specialised applications. 3) Value-Added Manufacturing and Services: with focus on building SMEs as cluster elements in value-added manufacturing and services provision. 4) Health-Biotech: with focus on human genetics, bio-informatics for support of clinical trials including pharmacogenetic ones and bio-technology for transition of generic pharma.
R&D / Innovation policy – Linkage	The National R&I Programme provides financial support for scientific research and development with a focus on applied research, demonstration and near-to-market innovations. The R&I Programme will consider funding of research and innovation projects of a scientific or technological nature.
R&D / Innovation policy – IPR	
R&D specific financial and fiscal policy	The R&D Tax Allowance is aimed primarily at increasing the rates of expenditure on research and technological innovation in enterprises. But it also is seen as facilitating access of enterprises to skilled personnel; increasing the number of new innovation intensive enterprises created and their survival; and increasing the rate of commercialisation/marketing of the results of innovation activity in enterprises.
R&D specific education policy	
R&D specific employment policy	
Finance Domain	
Financial and fiscal policy	Ebusiness tax-credits are aimed at: 1) encourage the uptake of strategic technologies, notably ICT, 2) upgrading innovation related skills and diffusing new technologies in enterprises 3) increasing rates of non-technological innovation in enterprises
Macroeconomic policy	
Human Capital Domain	
Education policy	
Employment policy	
Innovation Domain	

Innovation policy generic	<p>Malta Enterprise’s Business Technology Network is aimed at 1) increasing the availability, range and quality of specialised services to enterprises in order to increase the effectiveness of their in-house innovation activities; 2) facilitating the development of collaboration between enterprises and other actors with a view to joint innovation activities and knowledge exchange; 3) increase the number of new innovation intensive enterprises created and their survival 4) increasing the availability of private sector innovation financing to enterprises 5) promoting adequate support to enterprises aimed at new and developing markets.</p> <p>Malta Enterprise’s Discover Enterprise scheme is aimed at 1) ensuring that the future skills base in the region/sector/country will correspond to the innovation needs of enterprises; 2)increasing the number of new innovation intensive enterprises created and their survival 3) upgrading innovation related skills and diffusing new technologies in enterprises</p>
Innovation policy sectoral	
Other policies - industry	<p>Malta Enterprise’s Innovative Start-up Scheme is aimed at 1) increasing rates of expenditure on research and technological innovation in enterprises, 2) increase the availability, range and quality of specialised services to enterprises in order to increase the effectiveness of their in-house innovation activities 3) increasing the number of new innovation intensive enterprises created and their survival 4) favouring the entry of innovative enterprises and business models to sectoral, regional or national markets 5) ensuring adequate support to enterprises aimed at new and developing markets</p>
Other policies - trade	
Other policies - defence	
Other policies – consumer protection	
Other policies – health and safety	
Other policies - environment	
Other policies – regional development	
Other policies - competition	
Other policies – social security	

5 Coherence between main policy objectives and priorities, and policy instruments

In terms of instruments currently in place, the gap in relation to policy objectives and priorities is being addressed through the new Strategic Plan for R&I (2007-2010) and the proposed launch of a range of new measures and initiatives in 2007. Work is currently in hand to define in more detail the specific policy initiatives and implementing schemes and this will require further improvements in terms of iterations regarding policy rationales and approaches.

The Plan has introduced changes in R&D policy on a number of levels, including the policy rationales and approaches, the targeting of particular priority areas and a strong business orientation.

The new national Strategic Plan for R&I has made more extensive use of indicators and benchmarks in making the case to Government for a significant boost in national funding for R&I up to 2010. The Plan draws on various studies and reports, both locally commissioned and international studies and defines a number of performance targets. The Plan recommends the use of futures tools in particular horizon scanning and close collaboration with NSO for the improvement of R&I indicators. Significant progress has been registered in 2006 in the development of R&I indicators as a result of the efforts of Malta Enterprise.

The National Strategic Plan for R&I (2007-2010) sets out a vision for **“Research and Innovation at the heart of the Maltese economy to spur value-added growth and wealth.”**

The Vision is underpinned by the following strategic objectives:

- (i) to leverage state R&I finances / funding to address pressing national issues relating to water, energy and the environment;
- (ii) to focus public resources, energies and abilities towards a select number of value-added economic sectors in order to obtain value-added R&I.
- (iii) To put in place the appropriate supporting and enabling environment for SMEs to innovate
- (iv) to facilitate the establishment of an enabling platform that will allow Maltese enterprises in partnership with overseas institutions and business to enhance imported know-how and technology for exportation in the Southern Mediterranean region.
- (v) To establish the appropriate mechanism for a business to academia nexus and an intellectual property framework for public funded research
- (vi) To develop a National Pro-Innovation Culture supportive of Invention, Risk-taking and Entrepreneurship

The National Strategic Plan for R&I (2007-2010) sets a number of targets based on performance indicators relating to (a) the SET Human Capital Base; (b) Future R&I Capacity; (c) R&I Progress and Performance; (d) Industry-Academia Collaboration;

(e) Current R&I Capacity; (f) Imported Know-How; (g) Growth and Wealth Creation; and (h) Funding Sources for R&I in business, higher education and Government. These have been introduced in order to allow for “effective health checking of the R&I landscape in Malta”.

The Plan covers a comprehensive range of measures spanning from science education and fellowships to seed funding and venture capital. Work has started this year on defining an innovation policy per se, based on an in-depth analysis of the dynamics of the national system of innovation, in particular the blockages, barriers and strengths. Efforts will focus on moving from a number of innovation measures towards an explicit coherent “innovation policy” and the MARIS project is on track to provide this. It is clear that the new Plan has injected new opportunities for closer interaction and collaborative working between the key entities responsible for R&I and it is envisaged that the detail of implementation will be better specified by next year.

6 Policy mix instruments and target groups

Table 2: Policy instruments and broad routes to increase R&D investments

Policy categories	Policy instruments	ROUTE 1: promote establishment of new indigenous R&D-performing firms	ROUTE 2: stimulate greater R&D investment in R&D-performing firms	ROUTE 3: stimulate R&D investments in firms non-performing R&D	ROUTE 4: attract R&D-performing firms from abroad	ROUTE 5: increasing extramural R&D carried out in cooperation with public sector	ROUTE 6: increase R&D in public sector
R&D Domain							
R&D policy generic	Name real instruments	X= relevant	XX= very relevant				
R&D policy sectoral	The new R&I Plan focuses national investments on 4 sectors. The sectoral policies and approaches have still to be designed and specified.	XX	X	X	X	XX	XX
R&D / Innovation policy – Linkage	The new R&I Plan addressed all 6 routes directly or indirectly. The current call for proposals under the R&I Programme targets primarily Routes 1,2, 6, 5.	XX	XX	X	X	XX	XX
R&D / Innovation policy – IPR	The R&I Plan recommends that the IPR regime be better specified in order to facilitate the knowledge transfer process between the public and private sectors.	XX					XX

R&D specific financial and fiscal policy	The R&D Tax Allowance provides incentives for increased private sector investments in R&D and innovation and access to new knowledge and skills. It supports new start-ups and the rate of commercialisation of innovation results in enterprises.	XX	XX	XX		XX	
R&D specific education policy							
R&D specific employment policy							
Finance Domain							
Financial and fiscal policy	E-business tax credits encourage and support the development/uptake of e-commerce as a means to promote a modern and dynamic business environment. The aim is to encourage the development and hosting of electronic business services by supporting enterprises responsible for the development of e-commerce systems and also users who introduce or improve their electronic commerce facilities.	XX	XX	XX	XX		
Macroeconomic policy							

Human Capital Domain							
Education policy							
Employment policy							
Innovation Domain	The Business Promotion Act provides a number of tax incentives geared towards stimulating innovation, including R&D Tax Allowance and e-Business Tax Credit incentives. The BPA also provides tax incentives for Professional Capacity Building, Back Office Operations, and Reinvestment Tax Credits. The strategic Government objectives for Competitiveness outlined within the NRP indicate intentions to improve the measures through revision of the BPA to provide sector-specific incentives		XX	XX	XX		
Innovation policy generic	The Malta RIS Initiative (MARIS) is working on a stand-alone innovation policy non-research-based needs to be developed with clear action lines and measures.			XX			

Innovation policy sectoral	The sector-specific R&I Plan measures need to be complemented by innovation analysis and non-research based approaches to the development of sectoral innovative products, processes and services.			XX			
Other policies – industry	The Innovation Start-up Scheme is a support programme designed to encourage the formation of innovative SMEs with a high development potential, and to support the growth of existing enterprises. By providing support in the form of loan guarantees and grants, it aims to improve business results as well as their access to high-grade markets.	XX					
Other policies – trade							
Other policies – defence							
Other policies – consumer protection							
Other policies – health and safety							
Other policies – environment							
Other policies – regional development							

Other policies – competition							
Other policies – social security							
Other policies – employment and training	Discover Enterprise project addresses entrepreneurship education and cultural change by sponsoring projects within local educational institutions. Malta Enterprise is providing this assistance to education institutions as financial and other supporting resources. The opportunities being offered to all Maltese education institutions range from enterprise education related initiatives, etc.					XX	XX

- a) The new National Plan for R&I addresses all six routes to some degree, with greater emphasis on routes 1, 2, 6 and 5. However the measures supporting all the recommended actions have still to be put in place. The current call for proposals under the MCST National R&I Programme which was recently re-designed to conform with the new Plan, already addresses sectoral priorities with an emphasis on Routes 1, 5 and 6 and less explicitly Routes 3 & 4 though these will be better specified in 2007-8.
- b) Malta Enterprise have in place a number of measures targeting Innovation and Fiscal policy which address different Routes or combinations of Routes. Route 4 forms a core element of ME strategy. The MCST-commissioned report on Malta Enterprise R&I measures targeting the private sector for the National R&I Plan, highlighted the need to revise the Business Promotion Act with a view to include more support measures for RTDI. The BPA schemes were originally set up to attract and retain foreign direct investment to Malta, but have gradually been adapted to support locally established companies to expand their operations. The adapted schemes are also aimed at encouraging capital investment in research and development but to date there has been poor take-up. It is important to note that there are no measures where finance is made available for operational purposes, as required for example by young technology start-ups for wages etc. FDIs on the other hand benefit from the loan guarantee and tax credit schemes available for R&D. The Research and

Development tax credits launched in 2005 are more applicable to established companies that are already showing profits and not so applicable to young technology start-ups that will typically not show a profit for a number of years and hence have no use for a tax credit.

- c) The research and innovation system is currently undergoing such a major process of change due to re-structuring of governance mechanisms and re-orientation of policies, approaches, measures and instruments that it is difficult to assess possible gaps and redundancies in measures. Efforts are in hand to ensure coherence between measures being implemented by MCST through the new Plan and Malta Enterprise's ongoing measures. These will need to be complemented by reviews of progress achieved.

7 Balance within R&D policy mix

Table 3: Assessment of ‘importance’ of R&D policy instruments

Instruments	Funding	Criteria				
		a	b	c	d	e
e-Business Tax Credits	new measure – no take up reported as at Feb 2006	X	X	X		
National R&I Programme	465K (2006)	XX	X	XX	X	XX
Business Technology Network	35.1K (2006)	X	X	X	X	X
Innovative Start-up Scheme	121.7K (2006) new scheme	XX	X	X	X	X
Discover Enterprise		X	X	X		
R&D Tax Allowance	new scheme	X	X	X		

A number of the policy instruments were launched over the last year and thus there has been limited time for take-up. The most significant R&D funding instrument is the MCST-run National R&I Programme which was recently revised to reflect the new priorities of the R&I Plan approved in 2006.

This section will thus focus on a relatively older instrument, the National RTDI Programme where there is evidence of excellent take-up of the programme and its significant extension in 2006/7.

- a. A key policy instrument introduced by the Malta Council for Science and Technology in 2003/4 is the National RTDI Programme which originally included three sub-programmes and was not targeting any particular sectors or thematic priorities. The first batch of RTDI Programme proposals were evaluated in January 2005 by top European domain experts who commended the high quality of proposals. In total 15 proposals were chosen covering a broad range of topics from ICT, engineering and life sciences to social sciences. Twelve projects are currently underway and will shortly come up for the first annual review. Although this scheme was very much focused on stimulating research as opposed to innovation per se, the scheme did provide an initial incentive for triggering private and public sector collaboration. It is difficult to determine the overall contribution to volume of R&D expenditures, however it did signify a considerable increase in public R&D expenditures, since this was the first national programme of its kind.
- b. the Programme was well-publicised through an expression of interest and briefing sessions and this resulted in important impacts on the NIS, the R&D policy-makers and R&D performers in terms of the need for a steady and increased flow of such public funding, the timely access to these funds and efforts to avoid delays in making the funds available to the R&D performers, and the need for more transparent evaluation procedures. The first call was left open and not targeted to

any particular sectors, however the next call will be targeted to the four priority sectors.

- c. The attention given to the Programme in the local media (not always positive due to the delays in making the funds available) lead to increase public attention. Policy-makers were also alerted to the strong interest in the public and private sectors in this type of support for R&I. This has lead to Government assigning an increased prominence to R&I on the national agenda and to major structural changes in the national R&I framework.
- d. The programme provided an allocation of 300 000 Maltese Lira for R&I projects in 2004 eventually disbursed in 2005.
- e. The RTDI Programme reflected a shift in public funding and this can now be considered as a growing trend with the boost to public funding for R&I which has been approved by Cabinet in the new Strategic Plan for R&I (2007-2010).

The Government is to increase its investment in R&I to 0.75% of GDP by 2010; phases as follows:

Year	Lm 000	% GDP[1]
2007	5,500	0.30
2008	8,500	0.45
2009	11,600	0.60
2010	14,800	0.75

The RTDI Programme is currently being re-designed to reflect the new orientation and priorities of the National Strategic Plan for R&I (2007-2010) and is replaced by a R&I National Investment Programme

8 Emergence of R&D policy mix

The National RTDI Plan and its implementing Programme emerged in 2003/4 in response to perceived challenges relating to the Lisbon Agenda together with a growing awareness among policy-makers of the need to address national research priorities and the needs/interests of local researchers. “The National RTDI Programme shall provide financial support for scientific research and development over the whole research and innovation chain, from basic and applied research to near-to-market innovations. The National RTDI Programme is designed in such a way as to encourage an increasing investment in research and innovation activity to comply with the 3% Lisbon and Barcelona targets”³.

Since 2005, the Government has been undergoing a process of deep reflection and re-thinking of national policies relating to science and technology, research and innovation and technological development. This process has led to the initiation of a number of changes affecting the structure and organisation of the RTDI policy-making framework together with the orientation, development and implementation of policies. The visible change process started in October 2005, when the Prime Minister announced in the national budget a higher profile and a revised and more specific remit for the Malta Council for Science and Technology (MCST), together with stronger links (through its new Chairman) and new location within the Office of the Prime Minister. MCST has been assigned a new, more prominent role to ensure more coordinated and coherent policy approaches in RTDI across Government Ministries and agencies to harness synergies and avoid duplication of effort. Firstly, MCST aims to act as a catalyst in defining and facilitating the role of RTDI activity as a support to Ministerial policies and sectoral strategies. Secondly, MCST aims to address the policy gaps and RTDI opportunities which arise at the interface between different Ministries. Thirdly, MCST is to prioritise and orient national RTDI investments, public and where possible private, to sectors and niche areas with high business potential and relevance to meet pressing economic and social needs.

As a result of these changes, there is evidence of new orientations and trends in policy with the introduction of a broader range of measures, direct and indirect as part of the recently Cabinet approved National Strategic Plan for Research and Innovation 2007-2010. The Plan reflects a number of new policy directions, in particular the drive to leverage State R&I funding to address on the one hand, national priorities relating to water, energy and the environment, whilst on the other hand focusing on a select number of value-added economic sectors in order to obtain value-added R&I. The definition of these priorities was based on an open consultation process which was carried out by MCST between October 2005 and June 2006 involving the public and private sectors and academia. This marks a new approach to research and innovation policy with an emphasis on vision development, priority-setting, sharing of competencies across Ministries and other agencies and the setting of short to medium-term targets and performance indicators. Horizon scanning has been introduced as an important tool in the re-definition of priorities by MCST in consultation with the

³ <http://www.mcst.org.mt/>

appropriate stakeholders. This is to be carried out every three years, based on a minimum ten year time horizon.

The new Strategic Plan for R&I (2007-2010) combines both perceived challenges and stakeholder demand as it has taken into account the heavy over-subscription of the first call for proposals under the National RTDI Programme in 2004. The Plan was also formulated on the basis of open consultation process which was carried out by MCST between October 2005 and June 2006 involving the public and private sectors and academia. This marks a new approach to research and innovation policy with an emphasis on vision development, priority-setting, sharing of competencies across Ministries and other agencies and the setting of short to medium-term targets and performance indicators.

In total nine thematic consultation sessions were held with experts from university, the public and private sectors on ICT, Biotech, Energy, Transport, Tourism, Masonry and Construction, Electronics, Nanotech, Materials and Manufacturing and Environment. The thematic consultations involved a discussion on the priorities within the sector, ongoing strategy processes and policy developments and types of measures suited to the sector. The information obtained through these consultations was structured according to thematic area to provide a detailed sector-specific policy context, reflecting on existing local capacities and competencies. In particular, the key findings which were compiled and presented in Appendix C of the Strategic Plan highlighted the “lack of an underlying policy in the majority of these sectors, with the exception of ICT and to a lesser degree energy.” The Key Findings document further notes that, “even in ICT and energy, there is as yet no clear and well-defined research and innovation strategy”. The findings have provided an important input to the prioritisation of measures and themes.

Attention to complementarities and interactions between policies and measures is being catered for through MCST’s new coordinating and oversight role from within the Office of the Prime Minister to ensure joined-up approaches to R&I governance and measures. The new R&I Plan also specifies that although MCST is the key entity responsible for catalysing and overseeing implementation of the Plan, key functions are to be shared with Malta Enterprise and the Secretariat for SMEs within the Ministry for Competitiveness and Communications (MCMP).

The new Plan is informed by policy developments within the EU particularly through information made available through CREST, and the policy experiences of other member states in particular small new member states like Estonia, Slovenia and Cyprus. Sources such as the European Innovation Trendchart, ERAWATCH and the World Economic Forum rankings also provide important benchmarking insights. The references included in the Plan indicate this transnational policy learning process.

Is the design process rather incremental or radical? Analytical or non-analytical?

The design process started in an incremental way up to 2005 and has switched to more radical in 2006 with the introduction of a number of major changes to the research and innovation governance system. Further changes are anticipated with the appointment of a dynamic new Rector at the University of Malta.

At this point in time there are positive indications that the current policy mix is emerging as an ex post reality and will move into rapid implementation in 2007.

9 Governance of the policy mix

The governance of the system of R&D policy instruments has undergone a major process of change in 2005/6 as a result of the Prime Minister's request for a review of the research and innovation sector. This review commissioned by Government earlier in 2005, drew on previous studies and proposed a number of important changes to strengthen the system which were taken on board. This included the re-location of responsibility for science and technology policy from the Ministry of Education, Youth and Employment to the Office of the Prime Minister. This has given research and innovation policy a higher profile and priority on the national agenda. MCST, the national advisory body and main funding agency on research and innovation policy now reports directly to the Office of the Prime Minister. MCST's position was further strengthened by the appointment of a high profile Chairman and Board together with a 40 member Advisory Council chaired by the Principal Permanent Secretary of the Civil service. The members of the Council are drawn from the public and private sectors and academia and include representation of local SMEs and FDIs.

To reinforce the policy coordination across Ministries, the Government set up in 2006 an Intra-Governmental Committee for Research and Innovation. Through this Committee, it is expected that the innovation policy process will receive a more coherent and consolidated management at national level.

The operational objectives of this Committee have been set out as follows:

- Formulate joined-up policies on Research and Innovation
- Attain congruency of Research and Innovation aims
- Achieve coherency in Research and Innovation action
- Act as a communication and information sharing fora on Research and Innovation activity
- Act as an issue resolution mechanism on Research and Innovation matters

The structure and mechanisms for the improved co-ordination of R&D policy instruments with policy instruments outside the R&D domain has thus been put in place. The National Strategic Plan for Research and Innovation approved by Cabinet in 2006 has also been based on a broad consultation process and close collaboration between MCST and the key players in the innovation system, including Malta Enterprise, the University of Malta, the line Ministries and public agencies and research entities. This has helped to forge important links between the players and to identify the need for strengthening policy and research capacities at all levels. The Plan specifies a number of shared competencies relating primarily to promoting business R&I, where prime responsibility rests with MCST, Malta Enterprise and the Secretariat for SMEs within the Ministry for Competitiveness and Communications (MCMP) to meet the newly set R&I strategic objectives within their respective portfolios. Specifically they are seen to be accountable within their respective portfolios, for meeting the strategic principles of this plan and also to work together in bringing all relevant actors to take-on the strategy and draw maximum benefits from it (such as through evaluating appropriate incentive schemes to promote R&I).

Close working links have developed between MCST and ME over the last year with support being provided by both sides on various projects and studies underway, including the EuroMediti initiative, the MARIS initiative (which builds on the Plan), the ESF FORLINK project, the INTERREG FUTURREG project, and EUREKA. Links between MCST, the UoM, and Malta Enterprise (ME) in the area of research and innovation policy have developed through the MCST Board where both entities are represented. The benefits of closer MCST-ME and University-MCST collaboration over the last year in terms of mutual learning and support have highlighted the importance of regular contact and networking on R&I initiatives and strategies and this constitutes an important policy learning curve. Closer collaboration is also encouraged with the Ministry of Education, Youth and Employment on science popularisation and education, with the University of Malta on knowledge and technology transfer and with the Department of Contracts on procurement in R&I. Efforts are currently underway to define the collaboration modalities and implement the recommendations.

10 Interactions between policy objectives and instruments

It is too early to discuss these but there is evidence of interactions among policy instruments. No information on this is as yet available.

A first review of the National RTDI Programme projects will take place later this year and will provide insights into positive, neutral and/or negative effects of the Programme experienced to date by the public and private sector entities active in this Programme.

11 References

National Strategic Plan for Research and Innovation 2007-2010 : Building and Sustaining the National R&I Framework

<http://www.mcst.org.mt/RI%20executive%20summary.pdf>

Malta Pre-Budget Document 2007 : Securing our Future

<http://www.mfin.gov.mt/image.aspx?site=MFIN&ref=PreBudget07E>

Malta Innovation Trendchart country report and policy fiches:

<http://trendchart.cordis.lu/malta>

Malta ERAWATCH: country fiches and research programmes templates:

<http://demo.cordis.lu/erawatch/index.cfm>

Malta National reform programmes towards Lisbon

<http://www.meu.gov.mt/files/NRP%20Consultation%20Document%20300805.pdf> (updated version not yet on-line)

Malta Enterprise Malta Regional Innovation Strategy (MARIS) Project

<http://www.maltaenterprise.com/filebank/documents/ris%20overview%20slide%20for%20website.pdf>

National Commission for Higher Education

<http://www.education.gov.mt/nche.htm>

University of Malta – overview

<http://www.um.edu.mt/noticeboard/univ.ppt>

<http://www.um.edu.mt/pub/annualreports.html>