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Technological innovation expenditure for 2014 was estimated at €85.7 million.

Business Innovation: 2012-2014

Between 2012 and 2014, 612 enterprises employing at least 10 persons, or 34.0 per cent of the total, undertook innovation activity (Table 1). Results show that 126 enterprises were engaged solely in technological innovation, 207 enterprises were engaged in non-technological innovation and the remaining 279 were involved in both technological and non-technological innovation.

Technological innovation expenditure for 2014 was estimated at €85.7 million. Of these, 14.0 per cent were attributed to computer programming (NACE division 62). This was followed by financial services activities (NACE division 64), accounting for 9.8 per cent of the total expenditure. With regard to innovation expenditure, the acquisition of machinery and equipment was predominant with a total of €37.6 million (43.8 per cent), followed by intramural R&D amounting to €31.9 million (37.2 per cent) (Table 2).

The survey shows that 4.9 per cent of all technological innovative enterprises found it was highly important to have cooperation agreements with suppliers of equipment, materials, components or software. This was followed by other enterprises within the same enterprise group and, clients or customers from the private sector (Table 3). The survey revealed that 486 enterprises were engaged in organisational and/or marketing innovations, with organisational innovation predominant over marketing innovation (Table 4). Non-technological innovation was predominant in wholesale and retail trade activities, manufacturing and professional, scientific and technical activities respectively (Table 5).

Low demand for innovations in the market and little competition were the two main obstacles which hindered non-innovative enterprises from engaging in innovative activities (Table 6).

Only 4.9 per cent of enterprises applied for at least one type of intellectual property right or licence. Registering a trademark and applying for a patent were the two main types of intellectual property rights and licences applied for (Table 7).

The number of innovative enterprises which had innovation with environmental benefits was 201. The main factors driving this type of innovation were the high cost of energy, water and materials and also the improvement of the enterprise's reputation (Table 8-9) ■

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Table 1. Number of enterprises by type of innovation activity: 2012-2014

	Size class: number employed			Total	Percentage Distribution
	10-49	50-249	250+		
Total Enterprises	1,416	324	58	1,798	100.0
Enterprises with Innovation Activity	425	156	31	612	34.0
Technological Innovation only *	93	29	4	126	7.0
<i>of which reported Innovation expenditure</i>	49	24	3	76	4.2
Both Technological and Non-Technological Innovation	174	80	25	279	15.5
<i>of which reported Innovation expenditure</i>	100	52	15	167	9.3
Non-Technological Innovation only	158	47	2	207	11.5
Non-Innovative Enterprises	991	168	27	1,186	66.0

*Technological innovative enterprises comprise those that have undertaken some form of technological innovation

Table 2. Technological innovation expenditure: 2014 ...

NACE Rev. 2	Economic Sector	Enterprises reporting Innovation Expenditure	Intramural R&D*	Extramural R&D	Acquisition of machinery and equipment	Acquisition of other external knowledge	Other**	Total Expenditure	Percentage total
10	Manufacture of food products	17	713	115	1,209	1	560	2,598	3.0
18	Printing and reproduction of recorded media	4	-	-	3,532	-	7	3,539	4.1
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	6	3,174	-	-	-	6	3,180	3.7
22	Manufacture of rubber and plastic products	9	364	-	4,891	300	120	5,675	6.6
23	Manufacture of other non-metallic mineral products	5	-	-	158	-	-	158	0.2
25	Manufacture of fabricated metal products, except machinery and equipment	5	49	-	3,235	35	153	3,472	4.0
26	Manufacture of computer, electronic and optical products	4	1,926	60	1,490	20	110	3,606	4.2
27	Manufacture of electrical equipment	5	359	50	1,065	-	221	1,694	2.0
28	Manufacture of machinery and equipment n.e.c.	4	738	15	303	-	50	1,105	1.3
various	Other manufacturing (See methodological notes)	14	2,468	774	2,055	24	483	5,803	6.8
33	Repair and installation of machinery and equipment	4	39	-	53	151	15	257	0.3
43	Specialised construction activities	7	30	-	576	27	7	641	0.7
46	Wholesale trade, except of motor vehicles and motorcycles	17	5,059	284	1,172	30	143	6,688	7.8
47	Retail trade, except of motor vehicles and motorcycles	17	516	-	111	25	158	809	0.9
49	Land transport	5	-	-	540	-	5	545	0.6

... Table 2. Technological innovation expenditure: 2014

NACE Rev. 2	Economic Sector	Enterprises reporting Innovation Expenditure	Intramural R&D*	Extramural R&D	Acquisition of machinery and equipment	Acquisition of other external knowledge	Other**	Total Expenditure	Percentage total
			€000						
52	Warehousing and support activities for transportation	6	10	-	996	-	78	1,084	1.3
55	Accommodation	5	-	10	395	-	187	592	0.7
56	Food and beverage service activities	8	-	-	1,271	4	278	1,553	1.8
61	Telecommunications	3	250	-	28	-	53	331	0.4
62	Computer programming	21	9,821	-	142	5	1,992	11,960	14.0
64	Financial service activities, except insurance and pension funding	11	640	-	4,322	2,642	766	8,370	9.8
65	Insurance	5	84	-	1,602	127	270	2,083	2.4
66	Activities auxiliary to financial services and insurance activities	8	504	50	32	72	84	742	0.9
68	Real estate activities	3	-	-	117	-	45	162	0.2
69	Legal and accounting activities	5	-	-	128	-	149	277	0.3
70	Activities of head offices; management consultancy activities	4	-	2,100	1,549	-	1,503	5,152	6.0
71	Architectural and engineering activities; technical testing and analysis	7	364	-	218	2	10	594	0.7
74	Other professional, scientific and technical activities	4	-	-	187	-	5	192	0.2
77	Rental and leasing activities	3	-	-	109	-	18	128	0.1
various	Other non-manufacturing (see methodological notes)	27	4,808	500	6101	616	721	12,746	14.9
Total		243	31,915	3,957	37,587	4,081	8,196	85,737	100.0

* Intramural R&D coverage in the survey is based on the Innovation methodology. Actual R&D expenditure for 2014 should be taken from NSO Release 109/2016 due to a more extensive coverage (refer to methodological note 4)

** This is composed of expenditure arising due to training for innovative activities, market introduction of innovations, design and any other expenditure arising from activities to implement new or significantly improved products and processes such as feasibility studies, testing, routine software development, tooling up, industrial engineering etc.

Table 3. Number of technologically innovative enterprises having cooperation arrangements: 2012-2014

Cooperation partner	Technologically innovative			
	Size class: number employed			
	10-49	50-249	250+	Total
Total technologically innovative enterprises	267	109	29	405
At least one cooperation arrangement	31	17	6	54
No cooperation arrangement	236	92	23	351
Other enterprises within same enterprise group	7	4	1	12
Suppliers of equipment, materials, components or software	12	6	2	20
Clients or customers from the private sector	7	4	1	12
Clients or customers from the public sector	-	-	-	-
Competitors and other firms in the same industry	1	1	1	3
Consultants and commercial laboratories	1	1	1	3
Universities or other higher education institutions	1	1	-	2
Government or public research institutes	2	-	-	2

Note: Enterprises may have more than one cooperation arrangement. As a result, the total enterprises may only be summed up per cooperation partner and not by size class.

Table 4. Number of enterprises introducing organisational and marketing innovations: 2012-2014

Type of innovation	Size class: number employed			Total
	10-49	50-249	250+	
Enterprises introducing organisational and/or marketing innovations*	332	127	27	486
Enterprises introducing organisational and marketing innovations	145	59	14	218
Enterprises introducing organisational innovation only	116	40	12	168
Enterprises introducing marketing innovation only	71	28	1	100

* Enterprises introduced organisational and/or marketing innovations, regardless if with or without technological innovation

Table 5. Number of enterprises introducing organisational and marketing innovation by NACE section: 2012-2014

NACE Rev. 2	Economic sector	Enterprises introducing organisational and marketing innovations	Enterprises introducing organisational innovation only	Enterprises introducing marketing innovation only	Enterprises introducing organisational and/or marketing innovations
A	Agriculture, Forestry and Fishing	1	1	-	2
B	Mining and Quarrying	-	2	-	2
C	Manufacturing	31	35	18	84
D	Electricity, Gas, Steam and Air conditioning supply	-	-	-	-
E	Water supply; Sewerage, Waste management and Remediation activities	-	-	-	-
F	Construction	9	10	3	22
G	Wholesale and Retail trade	50	33	39	122
H	Transportation and Storage	16	15	3	34
I	Accommodation and Food service activities	20	6	13	39
J	Information and Communication	20	15	5	40
K	Financial and Insurance activities	30	9	5	44
L	Real Estate activities	4	2	-	6
M	Professional, Scientific and Technical activities	25	20	7	52
N	Administrative and Support Service activities	12	20	7	39
Total		218	168	100	486

Note: Enterprises introduced organisational and/or marketing innovations, regardless if with or without technological innovation.

Table 6. Number of non-innovative enterprises finding the following obstacles to innovate: 2012-2014

	Type of obstacle	Non-Innovative			
		Size class: number employed			
		10-49	50-249	250+	Total
	Total of non-innovative enterprises	991	168	27	1,186
	<i>At least one obstacle as 'high'</i>	162	20	4	186
	<i>At least one obstacle as 'medium' or 'low'</i>	275	48	5	328
<i>No compelling reason to innovate</i>	Low demand for innovations in the market	246	43	7	296
	No need to innovate due to little competition in market	191	36	5	232
	No need to innovate due to previous innovations	160	36	2	198
	Lack of good ideas for innovation	145	21	2	168
<i>Considered innovating, but barriers to innovation too large</i>	Lack of internal finance for innovation	32	2	-	34
	Lack of credit or private equity	28	5	-	33
	Lack of skilled employees within your enterprise	28	4	-	32
	Difficulties in obtaining government grants or subsidies for innovation	27	4	-	31
	Lack of collaboration partners	23	1	-	24
	Uncertain market demand	27	3	-	30
	Too much competition	32	5	-	37

Note: Enterprises may record more than one obstacle as 'high', 'medium' or 'low'. As a result, the total enterprises may only be summed up per obstacle and not by size class.

Table 7. Number of enterprises applying for intellectual property rights or licensing: 2012-2014

Type of variable	Total Enterprises			
	Size class: number employed			
	10-49	50-249	250+	Total
Total Enterprises	1,416	324	58	1,798
At least one type of intellectual property rights or licensing	62	17	10	89
No type of intellectual property rights or licensing	1,354	307	48	1,709
Applied for a patent	19	3	3	25
Applied for a European utility model	2	-	-	2
Registered an industrial design right	2	1	-	3
Registered a trademark	47	13	6	66
Licensed out or sold a patent, industrial design right, copyright or trademark	5	1	1	7
Licensed in or bought a patent, industrial design right, copyright or trademark	10	2	2	14

Note: Enterprises may record more than one application. As a result, total enterprises may only be summed up per application and not by size class.

Table 8. Number of innovative enterprises with environmental benefits: 2012-2014

	Environmental benefits	Size class: number employed			
		10-49	50-249	250+	Total
		Total innovative enterprises	425	156	31
	At least one environmental benefit	123	55	23	201
	No environmental benefit	302	101	8	411
<i>Environmental benefits obtained within the enterprise</i>	Reduced material or water use per unit of output	46	24	12	82
	Reduced energy use or CO2 'footprint' (reduce total CO2 production) within the enterprise	49	25	17	91
	Reduced soil, noise, water or air pollution within the enterprise	22	4	9	35
	Replaced a share of materials with less polluting or hazardous substitutes	30	15	11	56
	Replaced a share of fossil energy with renewable energy sources	24	9	11	44
	Recycled waste, water, or materials for own use or sale	61	23	18	102
<i>Environmental benefits obtained through the end user</i>	Reduced energy use or CO2 'footprint' by the end user	40	18	11	69
	Reduced soil, noise, water or air pollution by the end user	25	6	7	38
	Facilitated recycling of product after use	49	18	12	79
	Extended life product through longer lasting, more durable products	34	11	7	52

Note: Enterprises may have more than one environmental benefit. As a result, the total enterprises may only be summed up by environmental benefit and not by size class.

Table 9. Number of innovative enterprises introducing innovation with environmental benefits by factor: 2012-2014

Environmental benefit factors	Size class: number employed			
	10-49	50-249	250+	Total
	Total innovative enterprises	425	156	31
At least one factor as 'high'	73	35	13	121
At least one factor as 'medium' or 'low'	108	53	22	183
Existing environmental regulations	29	19	9	57
Existing environmental taxes, charges or fees	21	12	7	40
Environmental regulations or taxes expected in the future	15	11	4	30
Government grants, subsidies or other financial incentives for environmental innovations	27	13	10	50
Current or expected market demand for environmental innovations	19	5	5	29
Improving your enterprise's reputation	48	24	12	84
Voluntary action or initiative for environmental good practice within the sector	29	15	12	56
High cost of energy, water or materials	43	32	13	88
Need to meet requirements for public procurement contracts	12	5	4	21

Note: Enterprises may have more than one factor. As a result, the total enterprises may only be summed up per factor and not by size class.

Methodological Notes

1. The Community Innovation Survey collects information about technical and non-technical innovative activities carried out in a specific three-year period in the business sector. The target population is the minimum coverage requested, namely total enterprises with 10 employed persons or more.
2. The statistical unit surveyed is the enterprise as per Council Regulation (EEC) No 2186/93. The Survey is conducted in accordance with the Commission Regulation on Innovation Statistics No 1450/2004.
3. The following activities (NACE Rev. 2) are included in the target population:
 - mining and quarrying (NACE 05-09)
 - manufacturing (NACE 10-33)
 - electricity, gas steam and air conditioning supply (NACE 35)
 - water supply sewerage, waste management and remediation activities (NACE 36-39)
 - wholesale trade, except of motor vehicles and motorcycles (NACE 46)
 - transportation and storage (NACE 49-53)
 - publishing activities (NACE 58)
 - motion picture, video and television programme production, sound recording and music publishing/programming and broadcasting activities (NACE 59-60)
 - telecommunications (NACE 61)
 - computer programming, consultancy and related activities (NACE 62)
 - information services activities (NACE 63)
 - financial and insurance activities (NACE 64-66)
 - architectural and engineering activities technical testing and analysis (NACE 71)
 - scientific research and development (NACE 72)
 - advertising and market research (NACE 73)

Additional coverage was also conducted for the following non-core activities:

- agriculture, forestry and fishing (NACE 01-03)
- construction (NACE 41-43)
- wholesale and retail trade and repair of motor vehicles and motorcycles (NACE 45)
- retail trade, except of motor vehicles and motorcycles (NACE 47)
- accommodation and food service activities (NACE 55-56)
- real estate activities (NACE 68)
- legal and accounting activities (NACE 69)
- activities of head offices management consultancy activities (NACE 70)
- other professional, scientific and technical activities (NACE 74)
- veterinary activities (NACE 75)
- rental and leasing activities (NACE 77)
- employment activities (NACE 78)
- travel agency, tour operator and other reservation services and related activities (NACE 79)
- security and investigation activities (NACE 80)
- services to buildings and landscape activities (NACE 81)
- office administrative, office support and other business support activities (NACE 82)

4. Notes on Table 2:

- Research and Development (R&D) Intramural Expenditure reported in Table 2 is collected from the Community Innovation Survey (CIS) 2014, which due to difference in the coverage of the survey is to be used only for the compilation for the Total Innovation expenditure for 2014. Actual R&D expenditure for 2014 should be taken from News Release 109/2016 - Research and Development in Malta.

- The following NACE sections were aggregated due to confidentiality:

'Other manufacturing' includes NACE divisions:

- Manufacture of beverages (NACE 11)
- Manufacture of wearing apparel (NACE 14)
- Manufacture of paper and paper products (NACE 17)
- Manufacture of chemicals and chemical products (NACE 20)
- Manufacture of motor vehicles, trailers and semi-trailers (NACE 29)
- Manufacture of furniture (NACE 31)
- Other manufacturing (NACE 32)

'Other non-manufacturing' includes NACE divisions:

- Fishing and aquaculture (NACE 3)
- Mining support service activities (NACE 9)
- Water collection, treatment and supply (NACE 36)
- Waste collection, treatment and disposal activities; materials recovery (NACE 38)
- Construction of buildings and civil engineering (NACE 41)
- Civil engineering (NACE 42)
- Wholesale and retail trade and repair of motor vehicles and motorcycles (NACE 45)
- Water transport (NACE 50)
- Air transport (NACE 51)
- Postal and courier activities (NACE 53)
- Publishing activities (NACE 58)
- Motion picture, video and television programme production, sound recording and music publishing activities (NACE 59)
- Programming and broadcasting activities (NACE 60)
- Information service activities (NACE 63)
- Scientific research and development (NACE 72)
- Advertising and market research (NACE 73)
- Employment activities (NACE 78)
- Security and investigation activities (NACE 80)
- Services to buildings and landscape activities (NACE 81)
- Office administrative, office support and other business support activities (NACE 82)

5. Definitions:



- A **product innovation** is the market introduction of a new or significantly improved good or service with respect to its capabilities, user friendliness, components or sub-systems.
- A **process innovation** is the implementation of a new or significantly improved production process, distribution method, or supporting activity.

- An **organisational innovation** is a new organisational method in the enterprise business practices (including knowledge management), workplace organisation or external relations that has not been previously used by the enterprise.
- A **marketing innovation** is the implementation of new marketing concept or strategy that differs significantly from the enterprise's existing marketing methods and which has not been used before.

6. More information relating to this news release may be accessed at:

Classifications: <http://nso.gov.mt/metadata/classificationdetails.aspx?id=NACE Rev. 2>

Metadata: <http://nso.gov.mt/metadata/concepts.aspx>

European statistics comparable to data in this News Release are available at:

[EUROSTAT Website/Homepage/Statistics Database](#)

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