

Future skills needs: Innovation in agri-food and forestry-wood chains

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Headlines in Agriculture, Nature and Food Quality

Portugal: compensation for destroyed vineyards

Spain: dissatisfaction about reform in vegetables and fruits

United Kingdom: future of food retail on the internet

Belgium: policy actions for young farmers

France: additional support for poultry breeders

Ireland: agreement rural development plan

Denmark: animal transports

Belgium: biggest methionine-unit started up in Antwerp

Source: LBActualiteiten, 16, November 9, issue 34. Weekly information of the foreign LNV-Representation of NL



Common Agricultural Policy EU

‘The Common Agricultural Policy has been the biggest, the most contentious and the one with the largest budget of all the Union's policy areas. The EU has more power in agricultural policy than it has in any other policy area and it has passed more legislation on agriculture than in any other single policy area.’

Source: <http://europa.eu.int/scadplus/leg/en/lvb/104000.htm> (30-11-2004)



Responsible Ministries Agr Ed EU

(excl. differences between Secondary Agricultural Education and Higher Agricultural Education)

Agriculture

- Bulgaria
- France
- Greece
- Hungary
- Netherlands
- (Turkey)

Agric + Education

- Austria
- Belgium
- Germany
- Ireland
- Lithuania
- Portugal
- Slovakia
- Sweden

Education (+ others)

- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- Italy
- Latvia
- Luxemburg
- Malta
- Poland
- Slovenia
- Spain
- Romania
- United Kingdom



Key figures about agriculture in EU

69.000.000.000	US\$ imports into EU agri-food
51.000.000.000	US\$ exports from EU agri-food
14.500.000	people working in EU in agricultural holdings
7.300.000	agricultural holdings (average size of 17.5 hectares)
4.000.000	"less favoured" agricultural holdings (> half the EU agri area)
30.000	EU cooperatives (employing over 700.000 people)

Source - http://www.copa-cogeca.be/en/copa_objectifs.asp (retrieval date: 30-11-2004)



Key figures Food sector in EU

- Over 26,000 companies
- Employment: 2.8 million
- 3rd industrial employer in the EU
- Annual turnover of 600 billion Euros



Source: <http://europa.eu.int/comm/enterprise/food/intro.htm> (30-11.2004)



Major companies in the food sector in the EU



But there are also many SMEs

Grocer



Butcher



Labour market in the food sector in the EU

2001 ESTIMATES

EMPLOYEES

X 1000

%

MEAT PRODUCTS

624

22.3

FISH PRODUCTS

93

3.3

PROCESSED FRUITS AND VEGETABLES

168

6.0

OILS AND FATS

48

1.7

DAIRY PRODUCTS

274

9.8

FLOUR AND STARCH PRODUCTS

78

2.8

ANIMAL FEED

98

3.5

VARIOUS FOOD PRODUCTS

1,078

38.6

BEVERAGES

335

12

TOTAL

2,796

100

Source: Eurostat

The category "various food products" comprises amongst others confectionary, biscuits and food preparations.

Volume of Production in the food sector in the EU

2001 ESTIMATES	PRODUCTION		VALUE ADDED	
	BILLION €	%	BILLION €	%
MEAT PRODUCTS	126	20.1	23	15.9
FISH PRODUCTS	15	2.4	2	1.4
PROCESSED FRUITS AND VEGETABLES	36	5.8	9	6.2
OILS AND FATS	25	4	3	2.1
DAIRY PRODUCTS	96	15.3	16	11
FLOUR AND STARCH PRODUCTS	27	4.3	6	4.1
ANIMAL FEED	40	6.4	6	4.1
VARIOUS FOOD PRODUCTS	163	26	48	33.1
BEVERAGES	98	15.7	32	22.1



Number of companies and employees in the EU15 by state

2001 ESTIMATES		EMPLOYEES	NUMBER OF COMPANIES
		X 1000	
	AUSTRIA	79 ¹	1,264 ¹
	BELGIUM	62	723
	DENMARK	87 ¹	450
	FINLAND	34	336
	FRANCE	392 ²	3,604
	GERMANY	597	6,035
	GREECE	43	1,036 ¹
	IRELAND	47	687
	ITALY	268	6,800 ²
	LUXEMBOURG	4 ¹	226
	PORTUGAL	104 ¹	1,916 ²
	SPAIN	371 ¹	3,040
	SWEDEN	53	344
	THE NETHERLANDS	147 ¹	855
	UNITED KINGDOM	506 ¹	2,319



Employment in forestry in some countries



http://www.mcpfe.org/publications/pdf/eforests_in_the_spotlight.pdf; 16-06-2005



Association of forest owners

Country	Total area	Land area	Forest and other wooded land (OWL)			Area of forest and OWL by ownership		Share of private forest and OWL in total FOWL
			Total	Forest area	OWL area	Public	Private	
			1 000 ha					
Austria	8,387	8,252	3,924	3,840	84	712	3,212	82
Belgium	3,053	3,030	694	667	27	301	393	57
Czech Republic	7,887	7,728	2,630	2,630	0	2,212	418	16
Denmark	4,309	4,239	579	486	93	188	391	68
Estonia	4,523	4,187	2,156	2,010	146	1,978	184	9
Finland	33,814	30,454	22,882	22,032	850	6,491	16,391	72
France	54,919	54,148	16,989	15,156	1,833	4,228	12,761	75
Germany	35,702	34,613	10,740	10,740	..	5,762	4,978	46
Greece	13,196	13,076	6,513	3,359	3,154	5,331	1,182	18
Hungary	9,303	9,093	1,873	1,873	0	1,116	757	40
Ireland	7,029	6,890	665	624	41	397	268	40
Latvia	6,459	6,222	2,995	2,884	111	1,678	1,317	44
Lithuania	6,530	6,267	2,119	2,034	85	1,513	606	29
Luxembourg	259	258	89	86	3	41	47	53
Norway	32,376	30,625	12,004	8,713	3,291	2,936	9,064	76
Netherlands	3,735	3,388	361	361	..	173	166	46
Portugal	9,204	9,105	3,349	3,308	41	258	3,091	92
Slovakia	4,903	4,810	2,038	2,038	..	1,047	959	47
Spain	50,596	50,055	26,267	13,656	12,611	5,608	20,376	78
Sweden	45,218	40,843	30,599	27,293	3,266	6,175	24,385	80
Switzerland	4,129	3,916	1,234	1,173	61	878	326	26
United Kingdom	24,291	23,969	2,771	2,751	20	1,030	1,741	63
Total	369,822	355,168	153,471	127,714	25,717	50,053	103,013	67

*Sources:

"State of Europe's Forests 2003", the MCPFE report on sustainable forest management in Europe, jointly prepared by the MCPFE Liaison Unit Vienna and UNECE/FAO, 2003.

"Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand", UNECE/FAO contribution to the Global Forest Resources Assessment 2000, Geneva, 2000 and members informations



Association of forest owners

www.cepf-eu.org



The screenshot shows the homepage of the CEPF website. The header features a forest background with the text 'CEPF European Family Forestry'. Below the header is a green navigation bar with links: home, contact, global view, facts & figures, news, links, members only, and library. The main content area is divided into a left sidebar and a main text area. The sidebar lists various sections: vision / mission, organisation, policy areas, board, members, staff, and events. The main text area contains a welcome message, a description of CEPF in three languages, a paragraph about its role as an umbrella organization, a bold statement about its membership, and a paragraph about its history as a successor organization.

CEPF European Family Forestry

[| home](#) [| contact](#) [| global view](#) [| facts & figures](#) [| news](#) [| links](#) [| members only](#) [| library](#)

Home

- vision / mission
- organisation
- policy areas
- board
- members
- staff
- events

Welcome at CEPF Website

Confédération Européenne des Propriétaires Forestiers, association sans but lucratif.
Confederation of European Forest Owners, non-profit organisation
Zentralverband der Europäischen Waldbesitzer, n.w.V.

The CEPF is the only umbrella organization of national forest owner organizations in the European Union. Over 60 % of the total forest area in the European Union is privately owned. CEPF is currently the Representative of the European Family Forestry in 23 European Countries.

CEPF is the voice of 16 million family forest owners in Europe owning in average less than 13 hectares.

CEPF is a non-for-profit federation founded in 1996 as a successor organization to the Central Committee of Forest Owners (CCPF) in the European Economic Community, which was established in 1961.



European Confederation of woodworking Industries – CEI-Bois <http://www.cei-bois.org>



[home](#) [contact](#)

[about](#) [documents](#) [Roadmap 2010](#) [news](#) [prowood](#) [links](#) [members only](#)

About CEI-Bois

introduction

[objectives / mission](#)

[organisation](#)

[working groups](#)

[board](#)

[members](#)

[staff](#)

[become member](#)

[brochure](#)

Introduction

CEI-Bois, the European Confederation of woodworking industries, was founded in 1952 and represents the interests of the European woodworking industry, which includes more than 100,000 companies employing around 2.7 million workers in EU25.

The primary goal of CEI-Bois is to further the interests of the European wood sector and to this end, it aims to influence EU policy-making. It is the main body representing and defending the interests of the European woodworking industries towards the European Union.

The day-to-day management of CEI-Bois is assured by the secretariat in Brussels, supported by a number of working groups (additional ad hoc working groups are established as needed) dealing with international, environmental, technical, research and development, lobbying, promotion and social affairs. This work is monitored by a Board and a General Assembly.

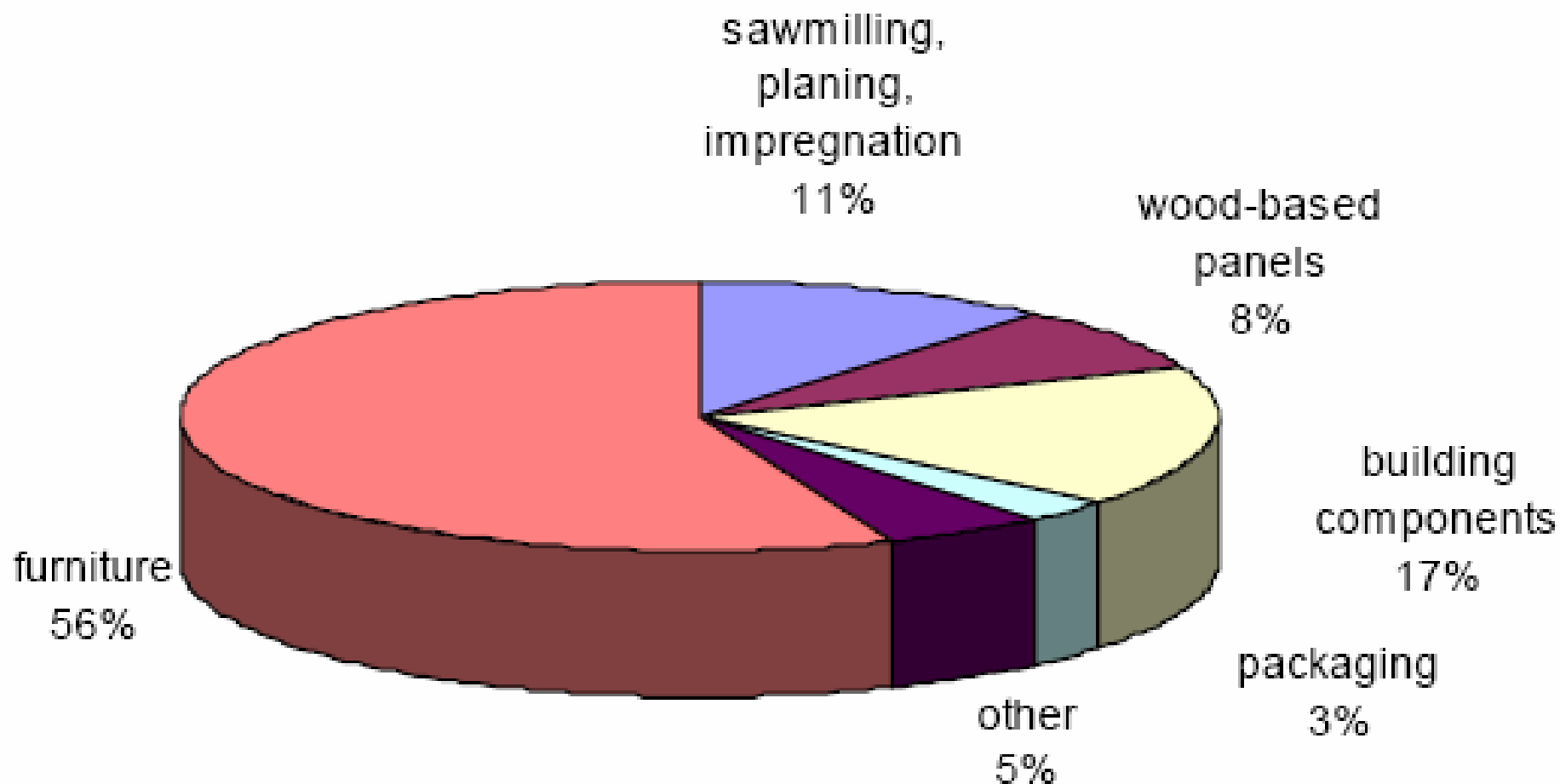
Production in the woodworking industry in Million €

<http://www.cei-bois.org/>; 16-06-2005

Production (excl. VAT)	1998	1999	2000	2001	2002	02/01
20.10	15,593	16,488	17,631	17,120	17,356	1.4%
20.20	12,067	11,942	13,134	13,023	12,613	-3.1%
20.30	19,584	20,789	21,819	22,288	25,522	14.5%
20.40	4,551	4,703	5,218	4,674	4,976	6.5%
20.50	7,940	8,681	9,384	8,079	8,014	-0.8%
Subtotal 20.00	59,735	62,603	67,186	65,184	68,481	5.1%
36.10	87,527	91,264	95,599	82,565	85,420	3.5%
Total 20.00 + 36.10	147,262	153,867	162,785	147,749	153,901	4.2%

Production 2002 - Relative importance of the subsectors

<http://www.cei-bois.org/>; 16-06-2005



Production value per EU member state in Million € 1998-2002

<http://www.cei-bois.org/>; 16-06-2005

Production (excl. VAT)	1998	1999	2000	2001	2002	02/01
20.00 + 36.10						
Austria	4,612	4,567	4,895	4,895	5,102	4.2%
Belgium/Luxembourg	3,441	3,465	3,923	4,424	3,749	-15.3%
Denmark	4,170	4,280	4,567	3,722	3,722	0.0%
Finland	4,921	5,455	5,536	5,744	5,791	0.8%
France	13,714	14,122	14,471	14,123	12,667	-10.3%
Germany	32,963	33,078	33,370	32,696	39,174	19.8%
Greece	409	501	526	560	559	-0.2%
Ireland	743	750	947	920	763	-17.1%
Italy	41,789	43,878	46,712	30,514	32,804	7.5%
Netherlands	3,113	3,289	3,504	3,402	3,263	-4.1%
Portugal	3,404	3,795	4,253	4,202	4,631	10.2%
Spain	10,046	11,443	12,951	12,717	13,495	6.1%
Sweden	7,329	7,936	9,009	9,202	8,485	-7.8%
United Kingdom	16,608	17,308	18,121	20,628	19,697	-4.5%
TOTAL	147,262	153,867	162,785	147,749	153,901	4.2%

Source: EUROSTAT



Production value in new member states in Million € 2001-2002

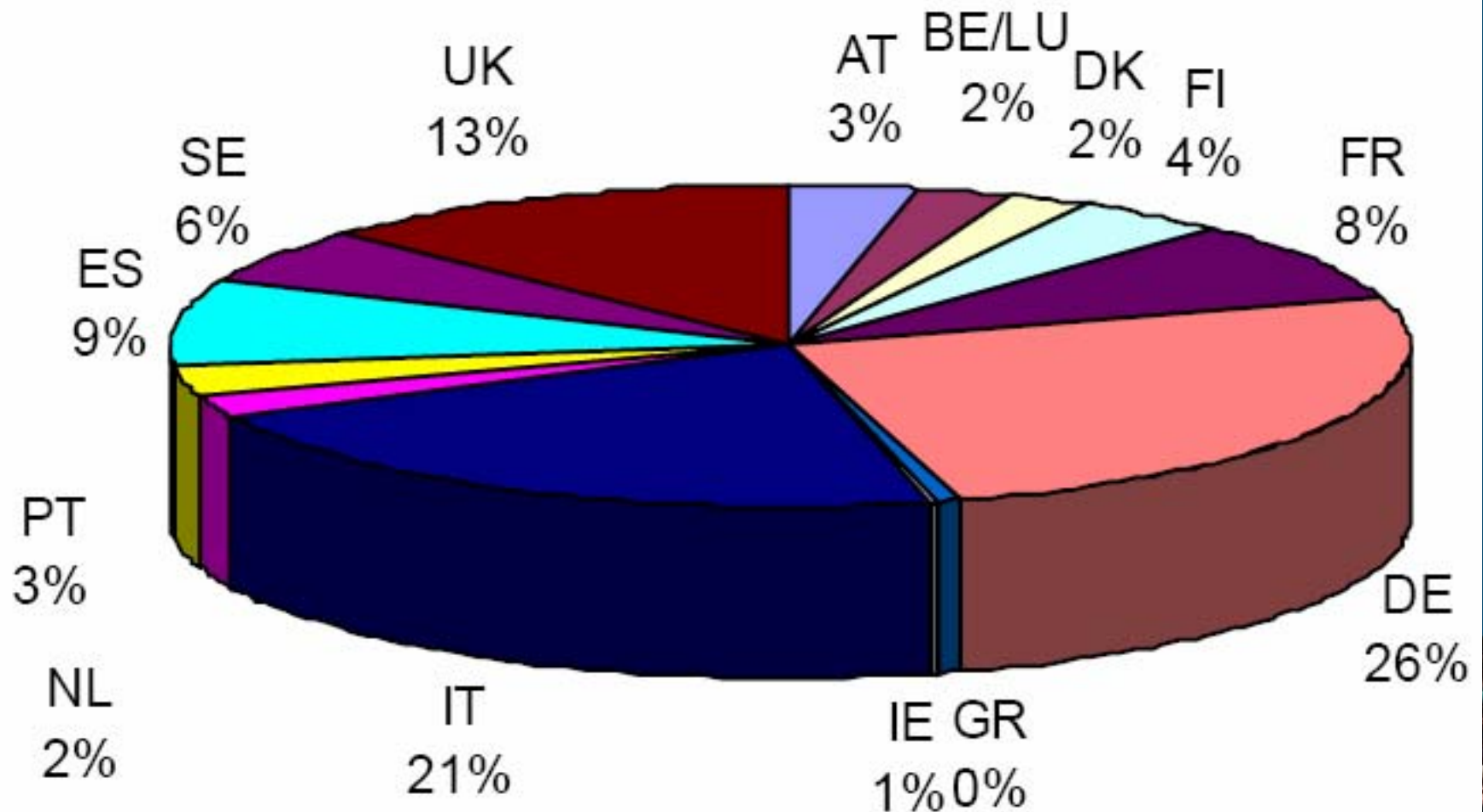
<http://www.cei-bois.org/>; 16-06-2005

Production (excl. VAT)	NACE 20.00			NACE 36.1			NACE 20.00 + 36.1			%
	2001	2002	02/01	2001	2002	02/01	2001	2002	02/01	
Czech Republic	373	390	4.6%	444	531	19.6%	817	921	12.7%	9.7%
Estonia	360	360	0.0%	183	183	0.0%	543	543	0.0%	5.7%
Hungary	461	505	9.5%	524	565	7.8%	985	1,071	8.7%	11.3%
Latvia	542	672	24.0%	152	196	28.9%	694	868	25.1%	9.2%
Lithuania	164	261	59.1%	158	214	35.4%	321	475	48.0%	5.0%
Poland	2,181	2,181	0.0%	2,302	2,302	0.0%	4,483	4,483	0.0%	47.4%
Slovakia	258	265	2.7%	61	65	6.6%	319	330	3.4%	3.5%
Slovenia	356	247	-30.6%	527	516	-2.1%	882	762	-13.6%	8.1%
TOTAL	4,695	4,881	4.0%	4,351	4,572	5.1%	9,044	9,453	4.5%	4.5%

Source: EUROSTAT

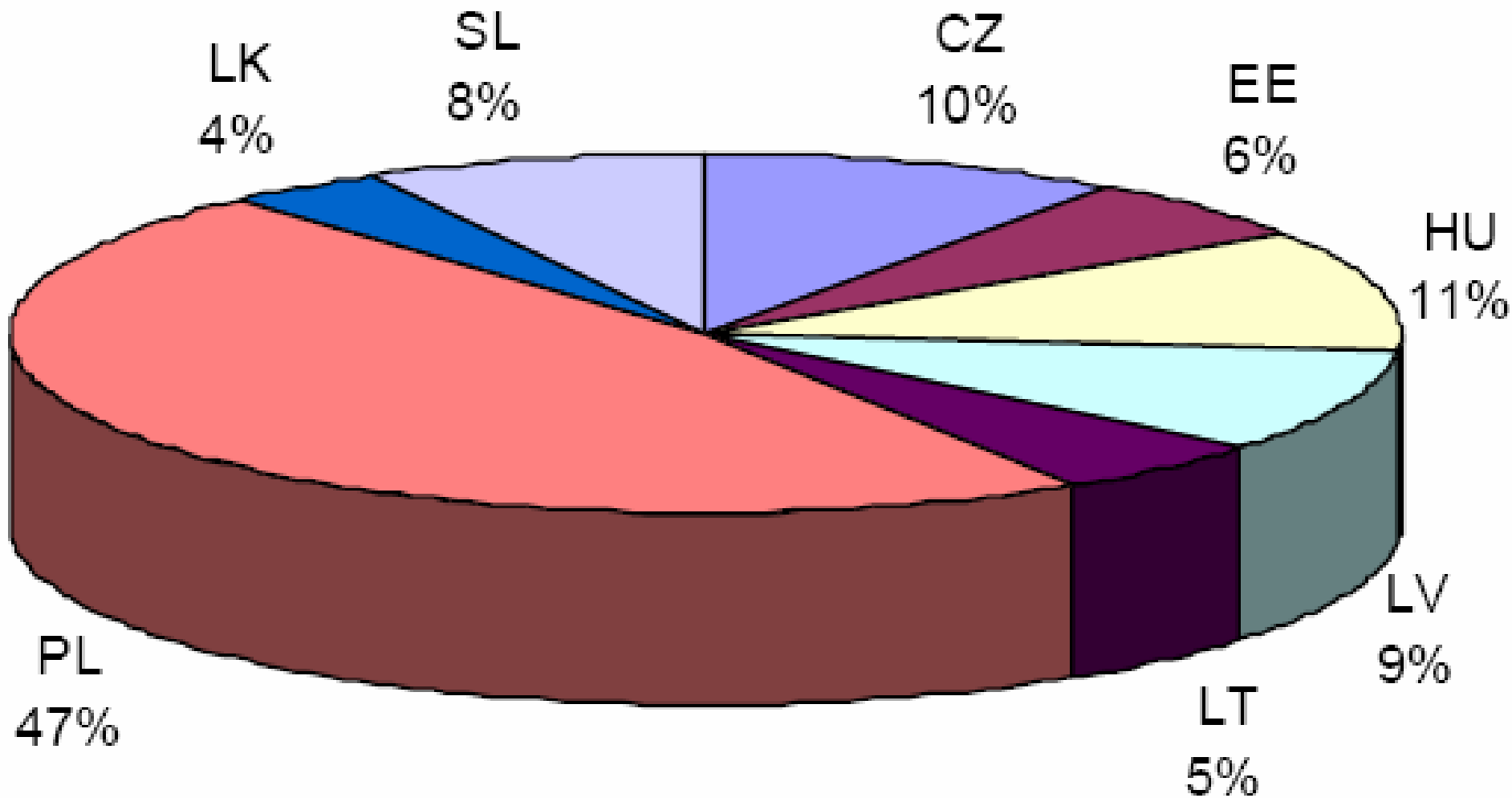
Relative weight in production by member state EU15

<http://www.cei-bois.org/>; 16-06-2005



Relative weight in production by new EU member state

<http://www.cei-bois.org/>; 16-06-2005



Times they are changing (Bob Dylan)

Mount Olympus and Agia Triada: a Change in World View



Learning in the green sector is red hot



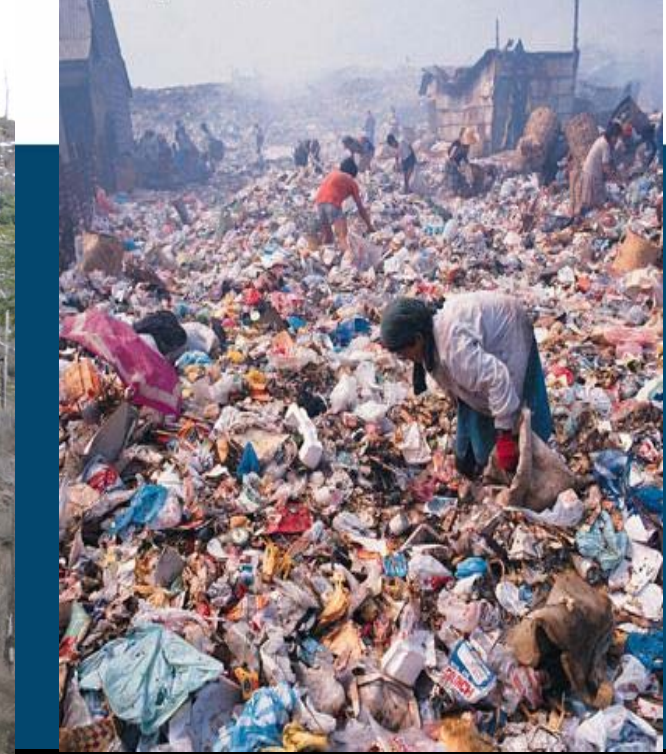
World population

- 2004
6 billion
people
- 2020
8 billion
people
(estimated)



Pressure

- Secure food production
- Food safety
- Environment
- Competing claims



Scandals and conflicts

- Abuses in cattle markets in the Netherlands

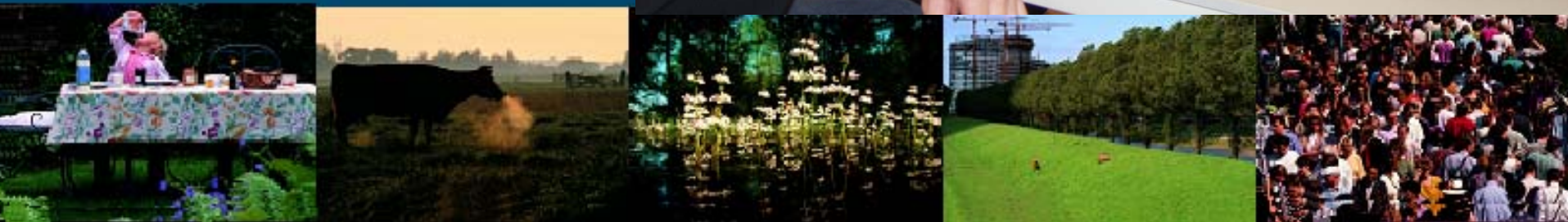


- Foundation of Animal Rights



Competent human resources needed ...

- Basic education for all
- Vocational qualifications
- Professional education
- Academic education
- Learning in the workplace



... who can cope with the enormous challenges

- Quality
- Cheap food
- New delivery methods
- Novel food
- Dashboard dining
(15% in the US!)
- Diets
- Lifestyle
- Health and nutrition
- Safety concerns
- Ethical concerns
- Migration and ethnic food



... in the reality of social games

- The number of players is growing
- Stakes and prizes are getting higher
- Transformation of roles of players
- More rules which permanently change
- Ambiguous information
- More interactions
- More conflicts of interest
- The necessity to play different games simultaneously
- Cheating and manipulations
- Absence of a neutral umpire

Source: I. Mayer & W. Veeneman (Eds) (2002). *Games in a world of infrastructures*. Delft: Eburon.



... and with complexity in innovation

- Product improvement
- Process improvement
- Systems innovation



Innovation in the agri-sector: 5 fields

- Animal sciences
- Plant sciences
- Food-nutrition-technology sciences
- Environmental sciences
- Social sciences



Animal sciences

- Fisheries
 - Leisure and tourism
 - High-tech professionalism
 - Sustainability issues
- Aquaculture
 - More added value compared with crops
 - Empty seas
 - Endless demand
- Pets
 - Horses





WAGENINGENUR
For quality of life

Plant Sciences

- GMOs
- Medical plants
- New species



Food-nutrition-technology

- Bio-nanotechnology
- Food safety
- Food security
- Health
- Lifestyle



Environmental sciences

- Environmental technology: biological processing of bio-waste by extremophile bacteria
- Anaerobic waste water cleaning
- H. Lettinga: waste biogas processing factories
- Remote sensing and geo-information systems
- Climate change simulations and extrapolations



Social Sciences

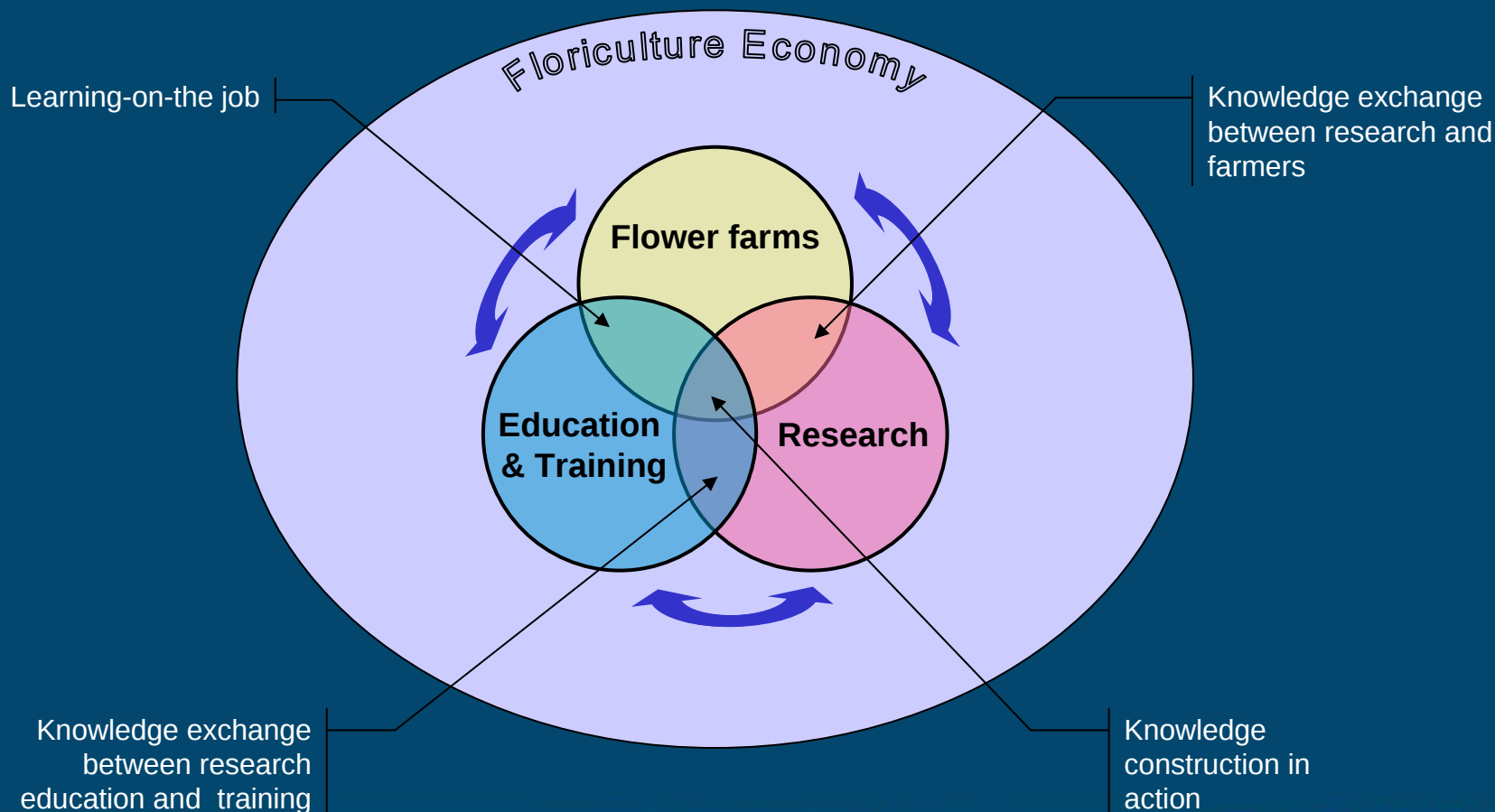
- Beta-gamma integration: hard and social sciences
- Multiple stake-holder processes: agency
- Participatory policy development: empowerment
- Company styles: diversity
- Food law: worldwide right for food
- Chains and networks: offensive coalitions
- Ethics: integrity



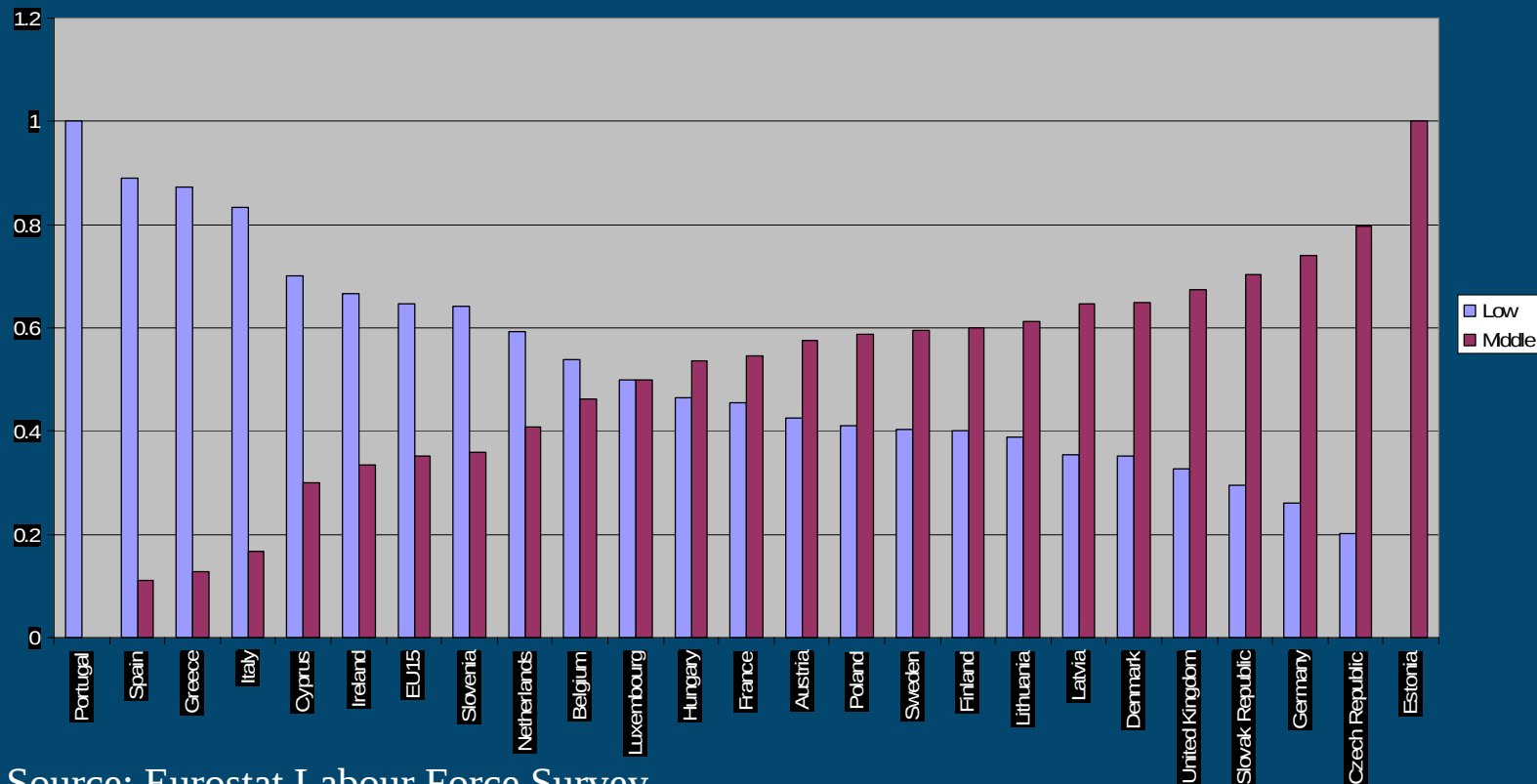
Innovation & Trends

- Economic restructuring
- Backward chain integration
- Networks – Netchains
- Scale enlargement
- Entrepreneurship
- Cost reduction
- Quality
- Standardisation
- Bionanotechnology
- Genomics
- ICT
- Tracking & Tracing
- Precision automation
- Sustainability
- Bio-based economy
- Organic production
- Lifestyle - health
- Globalisation
- Multifunctional landuse
- Knowledge circulation – cooperative knowledge production
- ... ???
- ... ???
- ... ???





Percents of workers in agriculture and fisheries in the EU by educational level (ISCED 0-2 and ISCED 3-4) by state (2002)



Source: Eurostat Labour Force Survey



Numbers of workers in agriculture and fisheries in the EU (x1000) by member state and educational level (2nd quarter 2002)

	Total	0-2	3-4	5-6
EU 15	5118	3111	1691	316
Poland	2530	1025	1468	37
France	984	418	503	63
Germany	702	153	436	113
Italy	653	537	107	9
Spain	625	533	66	26
Greece	616	532	78	6
Portugal	570	570		
United Kingdom	267	74	152	41
Lithuania	227	70	110	47
Austria	199	79	107	13
Finland	129	46	69	14
Netherlands	108	64	44	
Sweden	102	38	56	8
Czech Republic	92	18	71	3
Belgium	75	36	31	8
Latvia	68	24	44	
Denmark	54	19	35	
Slovak Republic	27	8	19	
Estonia	12		12	
Cyprus	10	7	3	
Luxembourg	4	2	2	

Educational
Level:

ISCED

0-2=lower

3-4=middle

5-6=higher

Not included:

IE, HU,

SI, MT

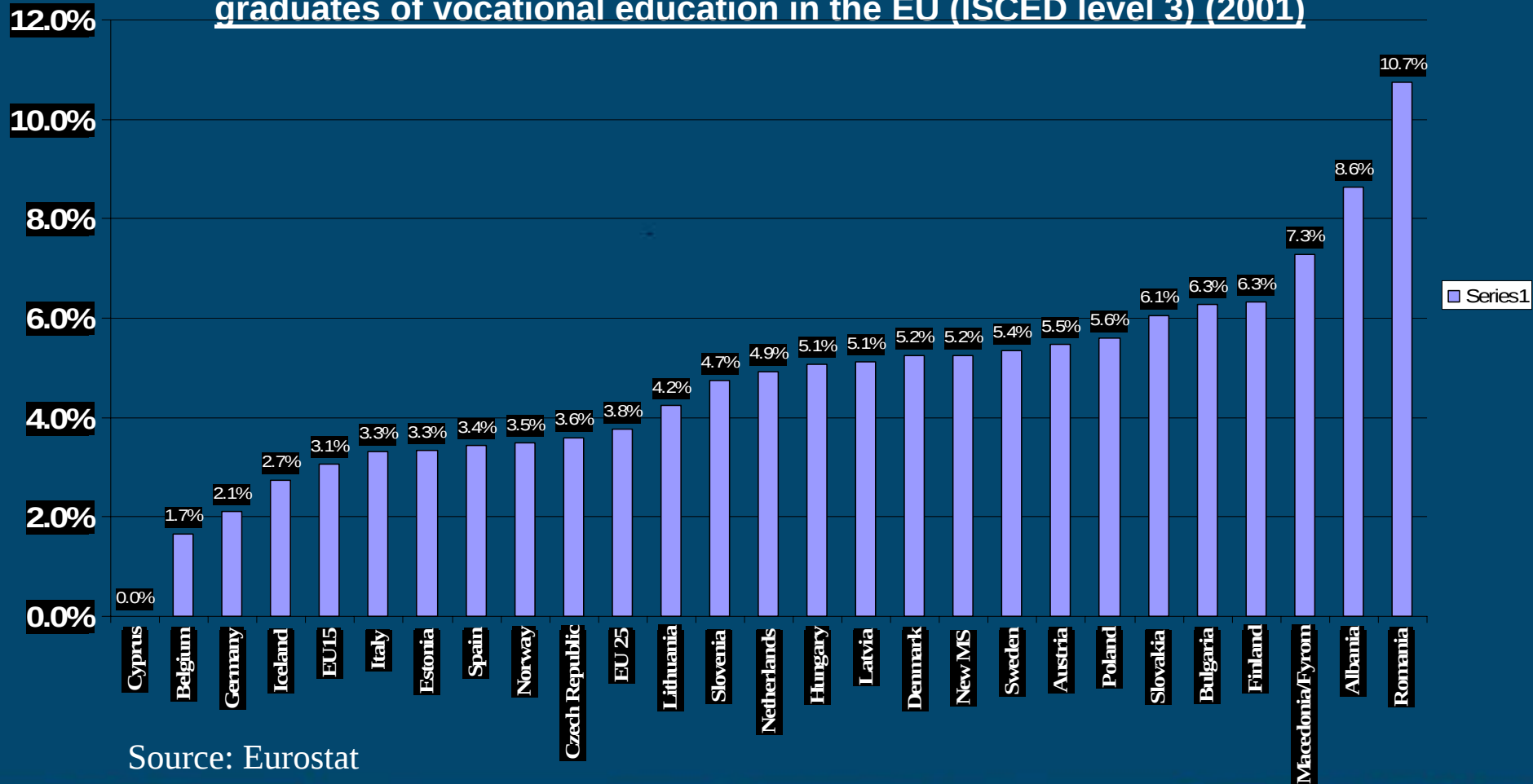
(as of partial or
absent data)

Source: Eurostat

Labour Force Survey



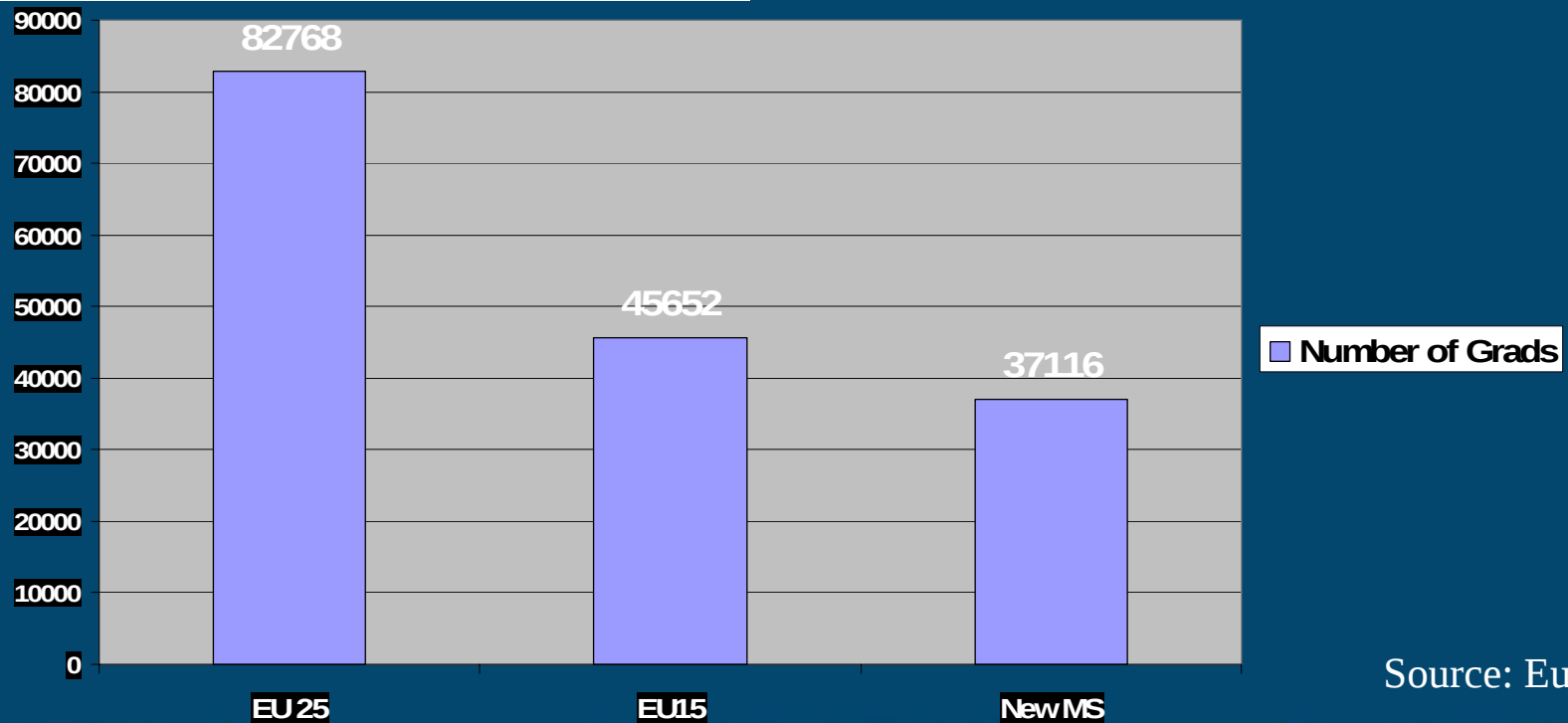
Proportion of graduates of agricultural education of the total number of graduates of vocational education in the EU (ISCED level 3) (2001)



Source: Eurostat



Number of graduates of agricultural education in the EU and new member states (ISCED level 3) (2001)



Source: Eurostat



Multiple stakeholders in the future skill needs dialogue Different perspectives

- Primary sector
- Industry and services
- Sectoral dialogue partners
- Public administration at various levels
- Researchers
- Educational institutions
- VET experts in support organisations



Sectors

- **Complex stratification/classification (NACE)**
 - Specialisation: specific skill needs
- **Common innovations and trends**
 - Comparable challenges
 - Transversal skill needs
- **Variation in occupations**
 - Generic skills needs
- **Sectoral skill needs**
 - Pitfall: tunnel view on skills needs
 - Cross-sectoral skills needed for agility of workers

