2016 2017

# The Automobile Industry Pocket Guide





#### Foreword

It is with great pleasure that I present to you the Automobile Industry Pocket Guide for 2016-2017. Updated with the latest data, it provides a clear overview of one of Europe's key industries, making the Pocket Guide a demanded and valued tool for all those interested in automotive industry issues and policies.

2016 is a special year for ACEA, as it was exactly 25 years ago that our association was founded. Looking back at what Europe's auto industry has achieved over these two and a half decades, it becomes clear that our industry has made a significant contribution to powering economic growth, spurring innovation, and driving safe and sustainable mobility for Europe and its citizens.

The latest employment data show that 12.2 million Europeans now work directly or indirectly in the automotive sector, producing 18.4 million cars, vans, trucks and buses a year. A fleet of 291 million motor vehicles provides efficient mobility and transport solutions across the EU. In 2015, 15.8 million new motor vehicles were sold in the EU, with automobile trade generating a healthy trade surplus of more than €100 billion.

Representing one of Europe's most vital strategic industries, ACEA continues to contribute constructively to discussions with policy makers and other stakeholders in order to strengthen the global competitiveness of the automobile sector. At the same time, we are committed to meeting tomorrow's challenges. In order to make mobility cleaner, smarter and safer in the future, the automobile industry will continue to play its role as a driving force for innovation in Europe. To that end, the automotive sector invests over €44.7 billion in innovation each year, making us the EU's largest investor in B&D

A novelty to the  $25^{\text{th}}$  anniversary edition of our Pocket Guide, is that we are also making its content accessible through interactive infographics on our website, allowing everyone to explore the data in detail over time or to compare countries. I invite you to start exploring these figures and statistics by visiting the 'Interactive Infographics' part of our website's 'Statistics' section.



Erik Jonnaert

**ACEA Secretary General** 

BMW Group

FCA
FAT CHRYSLER AUTOMOBILES

IVECO

GROUPE
RENAULT

VOLKSWAGEN
AKTIENGESELLSCHAFT

TOYOTA

TOYOTA

# ACEA represents Europe's car, van, truck and bus makers

#### **Members and partners**

The European Automobile Manufacturers' Association (ACEA) is the advocate for the automobile industry in Europe, representing manufacturers of passenger cars, vans, trucks and buses with production sites in the EU.

ACEA's members are: BMW Group, Daimler, DAF Trucks, Fiat Chrysler Automobiles, Ford of Europe, Hyundai Motor Europe, Iveco, Jaguar Land Rover, Opel Group, PSA Group, Renault Group, Toyota Motor Europe, Volkswagen Group, Volvo Cars and Volvo Group.

ACEA has permanent cooperation with the European Council for Automotive R&D (EUCAR), which is the industry body for collaborative research and development.

ACEA works closely with the 29 national automobile manufacturers' associations in Europe, and maintains a dialogue on international issues with automobile associations around the world

### ACEA's mission and priority areas

#### **ACEA's mission**

- Define and advocate the common interests, policies and positions of the European automobile industry.
- Engage in dialogue with the European institutions and other stakeholders in order to advance understanding of industry issues, and to contribute to effective policy and legislation at both European and global levels.
- Act as a portal for expert knowledge on vehicle-related regulation.
- Communicate the role and importance of the industry, using reliable data and information.
- Monitor activities that affect the automobile industry, cooperating with the other stakeholders involved.
- Undertake strategic reflection on the increasingly global challenges of mobility, sustainability and competitiveness.

#### **Priority fields**

Through its member companies, ACEA taps into a wealth of technical, regulatory and practical expertise in the following priority fields:

- Connected and Automated driving
- Competitiveness, Market and Economy
- Environment and Sustainability
- International Trade
- Research and Innovation
- Safety
- Transport Policy

#### How ACEA works

The ACEA Board of Directors is composed of the CEOs of its member companies. Additionally, a Commercial Vehicle Board of Directors addresses the specific issues that face the commercial vehicle manufacturers that ACEA represents: DAF Trucks, Daimler Trucks, Iveco, MAN Truck & Bus, Scania, Volkswagen Commercial Vehicles and Volvo Group.

The day-to-day work of the ACEA secretariat is overseen by the Secretary General, who ensures that the Board of Directors' priorities are addressed. Technical expertise and advisory input comes from working groups on topics as diverse as emissions, road and vehicle safety, general transport policy, and regulatory compliance. These specialist working groups are made up of experts from the member companies.

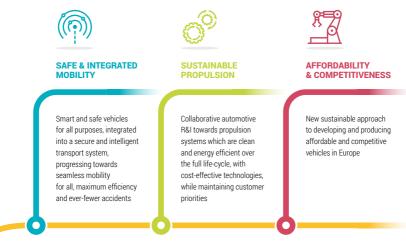


The European Council for Automotive R&D (EUCAR) is the collaborative research organisation of the major automobile manufacturers in Europe, with

the mission to strengthen the competitiveness of the manufacturers through strategic collaborative research and innovation.

Together with its members, EUCAR drives the strategy and assessment of collaborative automotive research and innovation, and establishes common work with the European Commission, member states and other key stakeholders. These activities facilitate the participation of EUCAR's members in high-quality projects with industrially-relevant results. Projects are mainly financed through the European Union Framework Programmes for research and innovation, matched with industry funding.

EUCAR collaborative research and innovation activities cover both passenger and commercial vehicles, focused on the following strategic pillars:





#### **COMMERCIAL VEHICLES**

An integrated approach for reliable, clean, safe and efficient freight transport and passenger mobility, through dedicated vehicle concepts and effective logistics

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EUCAR is governed by its Council, composed of the heads of the research and advanced development divisions of the member companies.

The EUCAR Chairman is nominated annually from the Council on a rotating basis.

EUCAR's members are:

BMW Group, DAF Trucks, Daimler, Fiat Chrysler Automobiles, Ford of Europe, Hyundai Motor Europe, Jaguar Land Rover, Opel Group, PSA Group, Renault Group, Toyota Motor Europe, Volkswagen Group, Volvo Cars and Volvo Group.

## Key figures

	EMPLOYMENT	
Manufacture of motor vehicles (EU28)	2.3 million people = 7.7% of EU employment in manufacturing	2013
Total (EU28 manufacturing, services and construction)	12.2 million people = 5.6% of total EU employment	2013
	PRODUCTION	
Motor vehicles (world)	91.5 million units	2015
Motor vehicles (EU28)	18.4 million units = 20% of global motor vehicle production	2015
Passenger cars (world)	73.5 million units	2015
Passenger cars (EU28)	16.0 million units = 22% of global passenger car production	2015
	REGISTRATIONS	
Motor vehicles (world)	90.8 million units	2015
Motor vehicles (EU27)	15.8 million units = 17% of global motor vehicle registrations/sales	2015
Passenger cars (world)	73.2 million units	2015
Passenger cars (EU27)	13.7 million units = 19% of global passenger car registrations/sales	2015
Diesel (EU28)	51.6%	2015
Alternative fuels (EU28)	3.0%	2015
	VEHICLES IN USE	
Motor vehicles (EU28)	291.1 million units	2014
Passenger cars (EU28)	252.7 million units	2014
Motorisation rate (EU28)	574 units per 1,000 inhabitants	2014
Average age (EU28)	9.7 years	2015
	TRADE	
Exports (extra-EU28)	€139.4 billion	2015
Imports (extra-EU28)	€39.1 billion	2015
Trade balance	€100.4 billion	2015
	ENVIRONMENT	
Average CO2 emissions (EU28)	119.6g CO2/km	2015
	INNOVATION	
Automobiles & parts sector	€44.7 billion	2014
	TAXATION	
Fiscal income from motor vehicles (EU15)	€401.5 billion	2015







#### Automotive sector:

direct and indirect employment in the EU

IN THOUSANDS / 2013

	٠		(0	DIRECT MANUFACTURING	2,294
	2.3 m obs direc		2.3 m jobs	Motor vehicles	1,043
	<b>2.:</b> jobs	0	2.3 Ⅲ	Bodies (coachwork), trailers and semi-trailers	153
		acturing	.,	Parts and accessories	1,098
		manuf		INDIRECT MANUFACTURING	807
		3.1 m jobs manufacturing	SC	Rubber tyres and tubes, retreading and rebuilding of rubber tyres	113
		က်	0.8 m jobs	Computers and peripheral equipment	69
			0.8	Electric motors, generators and transformers	219
				Bearings, gears, gearing and driving elements	193
sqof				Cooling and ventilation equipment	213
12.2 m jobs	irect			AUTOMOBILE USE	4,220
	9.9 m jobs indirect			Sale of motor vehicles	1,440
	doj <b>n</b>		4.2 m jobs	Maintenance and repair of motor vehicles	1,476
	9.91	bu	.2 m	Sale of motor vehicle parts and accessories	700
		octuri	4	Retail sale of automotive fuel in specialised stores	433
		manufa		Renting and leasing of motor vehicles	171
		9.1 m jobs non-manufacturing	sq	TRANSPORT	4,303
		m joi m	4.3 m jobs	Other passenger land transport	1,872
		9.1	4.3	Freight transport by road	2,431
			sq	CONSTRUCTION	585
			0.6 m jobs	Roads and motorways	534
			0.6	Bridges and tunnels	52

SOURCE: EUROSTAT

#### EU automotive employment

IN MILLION UNITS / 2009 - 2013



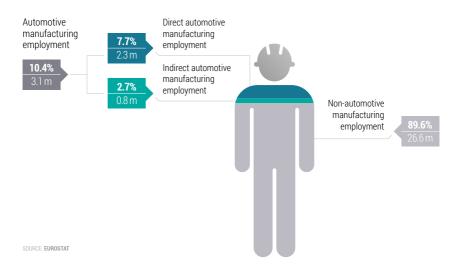
SOURCE: EUROSTAT

EU automotive employment	2009	2010	2011	2012	2013	% change 13/12
Manufacturing direct	1,807,450	2,049,371	2,230,937	2,290,416	2,294,104	0.2
Manufacturing indirect	750,703	813,283	844,287	829,588	806,641	-2.8
Automobile use	3,936,779	4,188,782	4,374,409	4,299,720	4,220,262	-1.8
Transport	3,116,011	3,926,462	3,945,370	4,067,166	4,303,079	5.8
Construction	587,592	653,989	653,752	625,386	585,195	-6.4
TOTAL	10,198,535	11,631,887	12,048,755	12,112,276	12,209,281	0.8

SOURCE: EUROSTAT

#### EU manufacturing employment

% SHARE / 2013



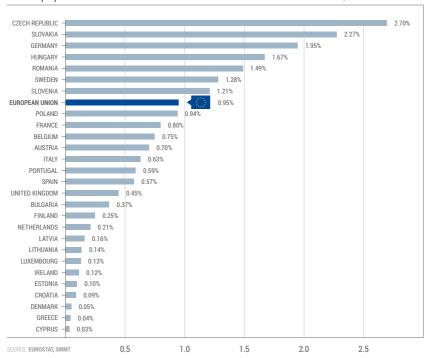
Direct automotive employment (manufacturing)	2.3 m people = 7.7% of EU employment in manufacturing
Direct & indirect automotive manufacturing employment	3.1 m people = 10.4% of EU employment in manufacturing

Total automotive employment (manufacturing, services and construction)	12.2m people = 5.6% of total EU employment
EU economically-active population (labour force)	242.5 m people
EU total employment	217.7 m people
EU employment in the manufacturing sector	29.7 m people = 13.6% of total EU employment

SOURCE: EUROSTAT

### Direct automotive manufacturing employment / Active population ratio

% SHARE, BY COUNTRY / 2013



#### Direct automotive manufacturing employment

BY COUNTRY / 2013

Austria	30,303	France	234,358	Netherlands	18,792
Belgium	36,973	Germany	815,127	Poland	162,830
Bulgaria	12,329	Greece	2,104	Portugal	30,461
Croatia	1,642	Hungary	74,362	Romania	137,512
Cyprus	144	Ireland	2,510	Slovakia	61,857
Czech Republic	142,556	Italy	161,318	Slovenia	12,234
Denmark	1,450	Latvia	1,621	Spain	131,493
Estonia	660	Lithuania	2,042	Sweden	66,400
Finland	6,687	Luxembourg	339	United Kingdom	146,000
		Furopean Union	2.294.104		

SOURCE: EUROSTAT, SMM1

## The EU automotive sector directly employs 2.3 million people in manufacturing

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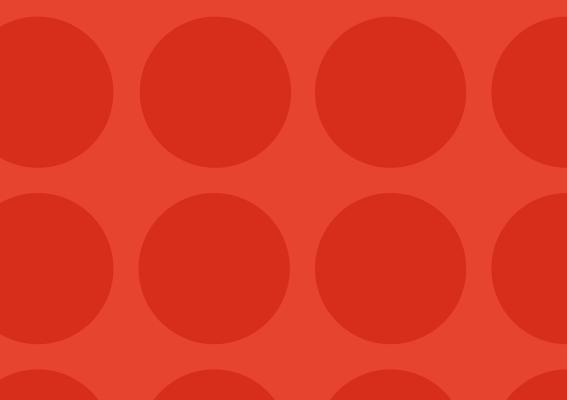
THE AUTOMOBILE INDUSTRY POCKET GUIDE 2016/2017

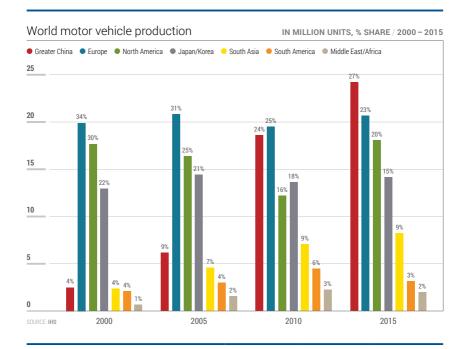
# Production











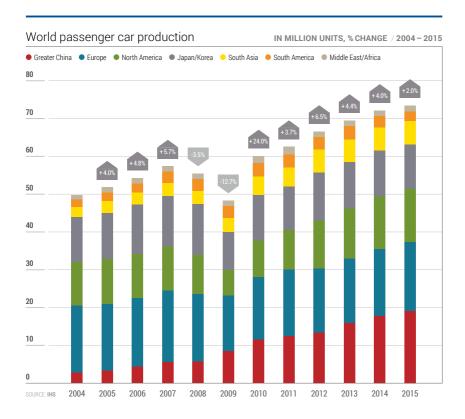
#### World motor vehicle production

IN 1,000 UNITS / 2015

	2015	2014	% change 15/14	% share 2015
Europe <sup>1</sup>	21,428	20,643	3.80	23.41
Greater China <sup>2</sup>	24,826	24,156	2.77	27.12
Japan/Korea	13,644	14,074	-3.06	14.91
Middle East/Africa	1,972	1,952	1.03	2.15
North America	18,053	17,523	3.03	19.72
South America	3,146	4,010	-21.56	3.44
South Asia	8,464	8,182	3.45	9.25
WORLD	91,533	90,540	1.10	100.00

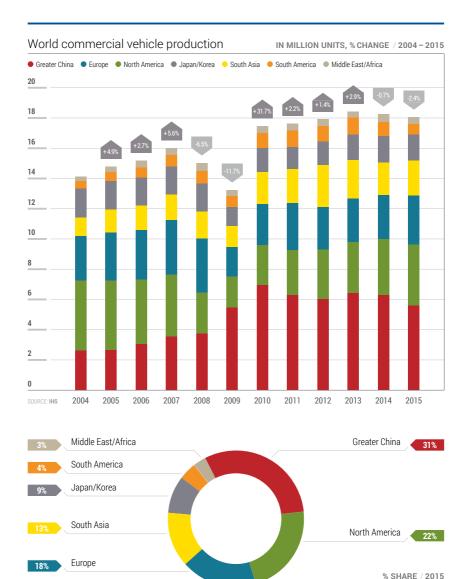
SOURCE: IHS

Includes Turkey and CIS countries
 Includes Hong Kong and Taiwan





## 73.5 million passenger cars were produced globally in 2015



18.1 million commercial vehicles were manufactured worldwide in 2015

#### Motor vehicle production in the EU

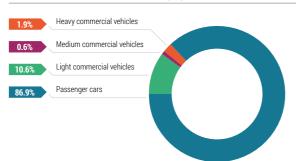
BY COUNTRY / 2015

	PC 1	LCV <sup>2</sup>	MCV <sup>3</sup>	HCV <sup>4</sup>	TOTAL
Austria	102,512	-	11,342	7,759	121,613
Belgium	364,574	222	0	30,990	395,786
Bulgaria	975	758	_	_	1,733
Czech Republic	1,244,406	11,137	0	789	1,256,332
Finland	79,564	_	-	278	79,842
France	1,492,402	445,322	11,091	44,960	1,993,775
Germany	5,557,943	390,818	36,918	116,133	6,101,812
Hungary	522,955	_	_	0	522,955
Italy	666,234	280,606	32,383	10,287	989,510
Lithuania		_	0	70	70
Netherlands	56,778	_	_	62,485	119,263
Poland	472,041	172,519	0	10,372	654,932
Portugal	102,151	50,425	2,782	_	155,358
Romania	381,080	0	0	0	381,080
Slovakia	909,551	_	_	_	909,551
Slovenia	128,829	_	_		128,829
Spain	2,174,826	530,210	8,366	22,144	2,735,546
Sweden	171,949	_	_	35,918	207,867
United Kingdom	1,588,062	73,997	6,926	8,812	1,677,797
European Union	16,016,832	1,956,014	109,808	350,997	18,433,651

SOURCE: IHS

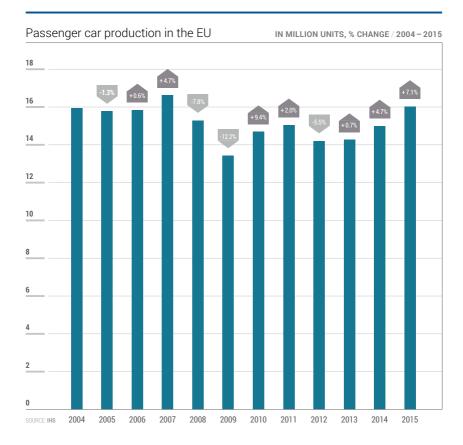
#### EU motor vehicle production by type

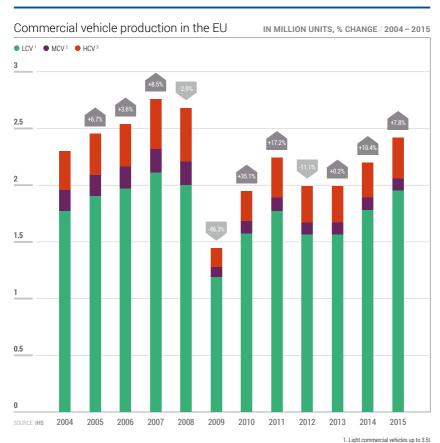
% SHARE / 2015



- 1. Passenger cars
- 1. Light commercial vehicles up to 3.5t
- Medium commercial vehicles from 3.5t to 15t
   Heavy commercial vehicles over 15t (incl. arctic trucks)

## 18.4 million vehicles were manufactured in the EU in 2015

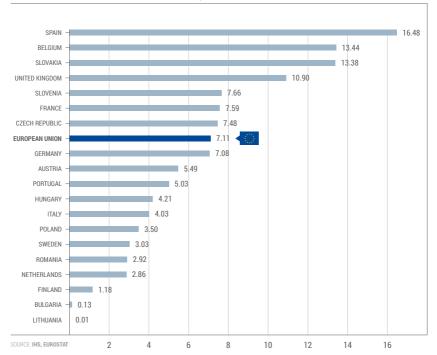




Light commercial vehicles up to 3.5t
 Medium commercial vehicles from 3.5t to 15t
 Heavy commercial vehicles over 15t (incl. arctic trucks)

### Motor vehicle production per direct automotive manufacturing worker

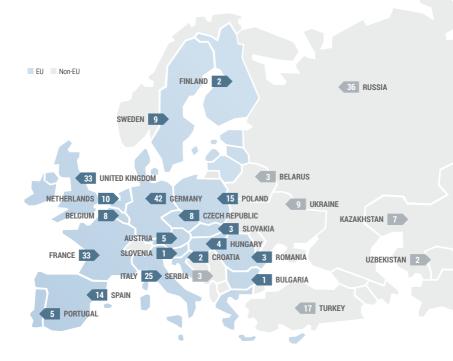
IN UNITS, BY COUNTRY / 2013\*



<sup>\*</sup> Based on most recent direct automotive manufacturing employment data available.

#### Automobile assembly and engine production plants in Europe

2016





SOURCE: ACEA

THE AUTOMOBILE INDUSTRY POCKET GUIDE 2016/2017

# Registrations









World new motor vehicle		MARKE	T SHARES / 2015	
Motor vehicles In 1,000 units	2015	2014	% change 15/14	% share 2015
EUROPE	19,317	18,711	3.2	21.3
O EU1	15,793	14,401	9.7	17.4
EFTA	565	526	7.4	0.6
Russia	1,657	2,581	-35.8	1.8
Turkey	1,010	801	26.0	1.1
Ukraine	47	99	-52.0	0.1
Others: Europe <sup>2</sup>	245	303	-19.0	0.3
AMERICA	25,803	25,572	0.9	28.4
North America	21,255	19,959	6.5	23.4
of which the US	17,929	16,926	5.9	19.7
South America	4,549	5,613	-19.0	5.0
of which Brazil	2,565	3,494	-26.6	2.8
ASIA	40,859	39,844	2.5	45.0
China	25,333	24,264	4.4	27.9
	5,038	5,558	-9.4	5.5
India	3,490	3,212	8.7	3.8
South Korea	1,839	1,654	11.2	2.0
Others: Asia <sup>3</sup>	5,160	5,155	0.1	5.7
MIDDLE EAST/AFRICA	4,860	5,116	-5.0	5.3
WORLD	90,839	89,242	1.8	100.0

SOURCE: ACEA, IHS

1. Data for Malta n.a. 2. Includes Belarus, Bosnia-Herzegovina, Kazakhstan, Macedonia, Serbia, Uzbekistan 3. Includes Hong Kong, Taiwan and other South Asian countries excluding India



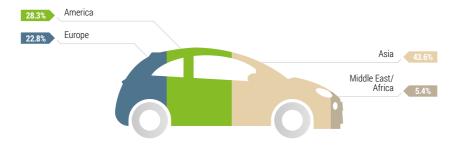
Passenger cars In 1,000 units	2015	2014	% change 15/14	% share 2015
EUROPE	16,672	16,270	2.5	22.8
EU1	13,714	12,551	9.3	18.7
EFTA	488	456	7.2	0.7
Russia	1,495	2,327	-35.8	2.0
Turkey	726	587	23.5	1.0
Ukraine	43	91	-52.4	0.1
Others: Europe	206	257	-20.0	0.3
AMERICA	20,714	20,630	0.4	28.3
North America <sup>2</sup>	17,170	16,282	5.5	23.5
of which the US	14,506	13,842	4.8	19.8
South America	3,544	4,348	-18.5	4.8
of which Brazil	2,125	2,801	-24.1	2.9
ASIA	31,888	30,376	5.0	43.6
China	19,717	18,071	9.1	26.9
Japan —	4,209	4,693	-10.3	5.7
India	2,823	2,601	8.6	3.9
South Korea	1,526	1,365	11.8	2.1
Others: Asia	3,612	3,646	-0.9	4.9
MIDDLE EAST/AFRICA	3,937	4,084	-3.6	5.4

WORLD
SOURCE: ACEA, IHS

Data for Malta n.a.
 Based on production type

100.0

2.6



71,360

73,210

World new commercial vehi	cic registratio	113	MARKE	T SHARES / 2015
Commercial vehicles <sup>1</sup> in 1,000 units	2015 2014		% change 15/14	% share 2015
EUROPE	2,645	2,441	8.4	15.0
EU <sup>2</sup>	2,079	1,849	12.4	11.8
EFTA	77	71	8.4	0.4
Russia	162	254	-36.3	0.9
Turkey	284	214	32.9	1.6
Ukraine	4	7	-47.2	0.0
Others: Europe	39	45	-13.1	0.2
AMERICA	5,090	4,942	3.0	28.9
North America <sup>3</sup>	4,085	3,677	11.1	23.2
of which the US	3,423	3,084	11.0	19.4
South America	1,005	1,265	-20.5	5.7
of which Brazil	440	693	-36.6	2.5
ASIA	8,971	9,468	-5.2	50.9
China	5,616	6,193	-9.3	31.9
Japan	828	865	-4.3	4.7
India	667	611	9.1	3.8
South Korea	313	288	8.6	1.8
Others: Asia	1,548	1,510	2.5	8.8
MIDDLE EAST/AFRICA	922	1,032	-10.6	5.2
WORLD	17,629	17,882	-1.4	100.0

SOURCE: ACEA, IHS

Includes light, medium and heavy commercial vehicles, and buses and coaches
 Data for Malta n.a.
 Based on production type



17.6 million vans, trucks and buses were registered globally in 2015

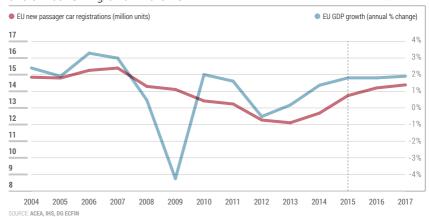
	<b>PC</b> <sup>2</sup>	LCV 3	CV <sup>4</sup>	<b>BC</b> 5	TOTAL
Austria	308,555	32,862	7,281	899	349,597
Belgium	501,066	61,208	8,327	923	571,524
Bulgaria	23,500	4,553	-	-	28,053
Croatia	34,820	6,695	1,011	122	42,648
Cyprus	10,344	1,443	47	-	11,834
Czech Republic	230,857	17,131	10,732	1,350	260,070
Denmark	207,552	32,479	4,756	532	245,319
Estonia	20,349	3,580	762	230	24,921
Finland	108,812	11,431	2,707	526	123,476
France	1,917,226	377,738	42,783	7,345	2,345,092
Germany	3,206,042	237,902	89,744	6,137	3,539,825
Greece	75,805	5,653	457	129	82,044
Hungary	77,171	17,515	5,701	546	100,933
Ireland	124,945	23,722	1,841	313	150,821
Italy	1,574,872	132,186	15,248	2,419	1,724,725
Latvia	13,765	2,347	1,468	251	17,831
Lithuania	17,085	2,367	3,715	192	23,359
Luxemburg	46,473	3,807	1,076	251	51,607
Netherlands	449,393	57,717	13,767	344	521,221
Poland	354,975	53,285	22,437	1,739	432,436
Portugal	178,496	30,858	4,039	254	213,647
Romania	81,162	11,066	5,954	2,309	100,491
Slovakia	77,968	7,297	4,447	379	90,091
Slovenia	59,450	7,452	1,907	163	68,972
Spain	1,034,232	154,928	22,435	2,617	1,214,212
Sweden	345,108	44,798	5,457	1,330	396,693
United Kingdom	2,633,503	371,830	47,590	8,483	3,061,406
European Union	13,713,526	1,713,850	325,689	39,783	15,792,848
Iceland	14,029	1,355	225	95	15,704
Norway	150,686	33,254	5,196	970	190,106
Switzerland	323,783	31,018	3,878	745	359,424
EFTA	488,498	65,627	9,299	1,810	565,234

SOURCE: ACEA, NATIONAL AUTOMOTIVE ASSOCIATIONS

Data for Malta n.a.
 Passenger cars
 New light commercial vehicles up to 3.5t
 New commercial vehicles (trucks) over 3.5t
 New buses and coaches over 3.5t

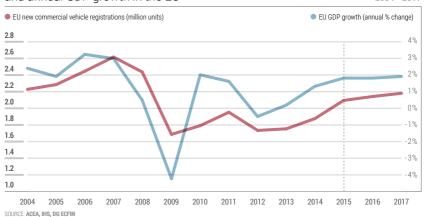
### New passenger car registrations and annual GDP growth in the EU

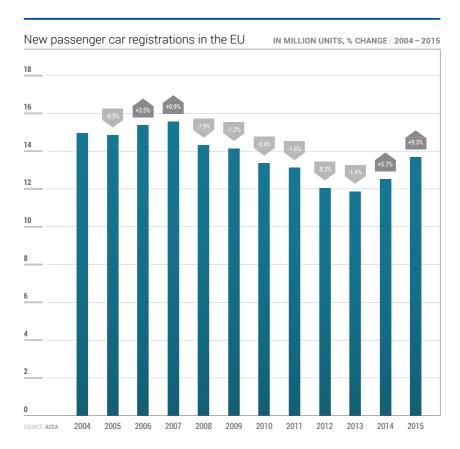
2004 - 2017



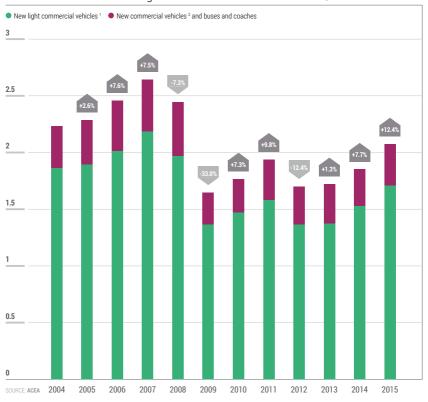
## New commercial vehicle registrations and annual GDP growth in the EU

2004 - 2017

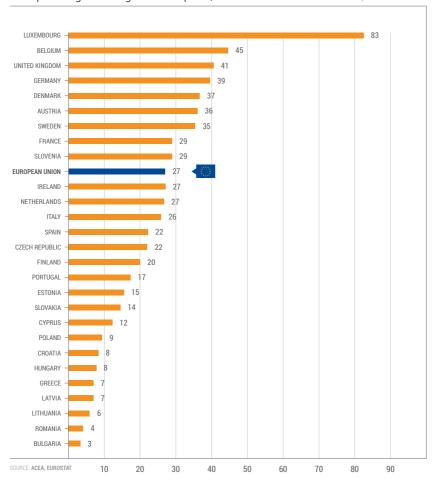


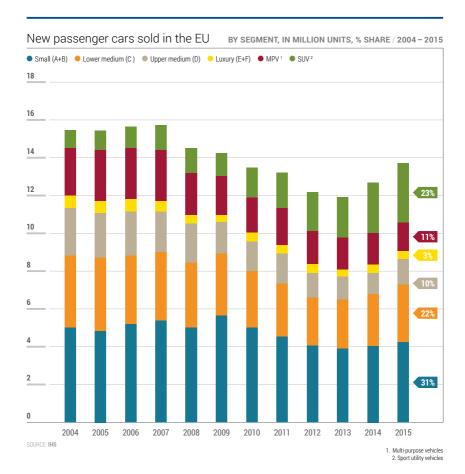


#### New commercial vehicle registrations in the EU IN MILLION UNITS, % CHANGE / 2004 - 2015



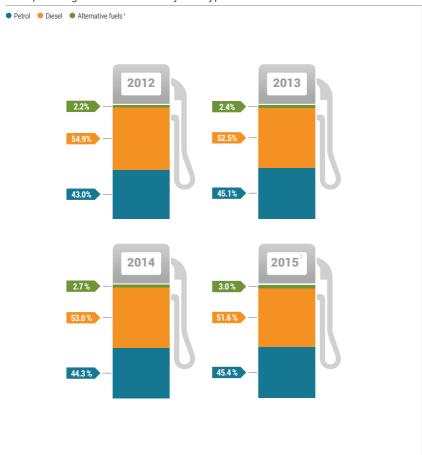
1. up to 3.5t 2. over 3.5t New passenger car registrations per 1,000 inhabitants By COUNTRY, IN UNITS / 2015





#### New passenger cars in the EU by fuel type

% SHARE / 2012 - 2015



SOURCE: EEA

Includes pure electric, liquefied petroleum gas vehicles (LPG), natural gas vehicles, ethanol (E85), biodiesel and plug-in hybrid vehicles
 Provisional data

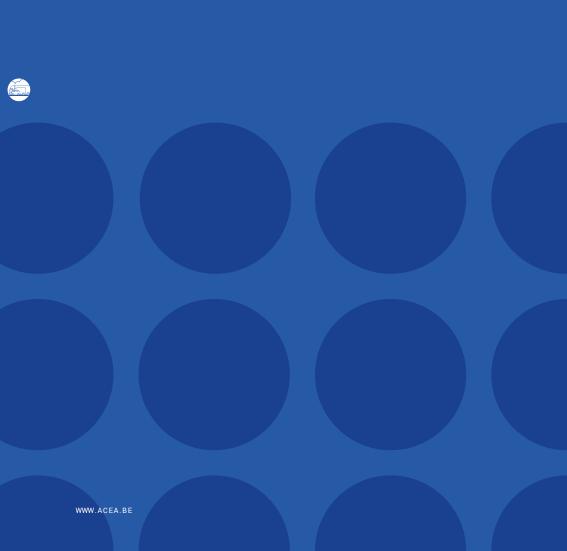
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THE AUTOMOBILE INDUSTRY POCKET GUIDE 2016/2017

# Vehicles in use

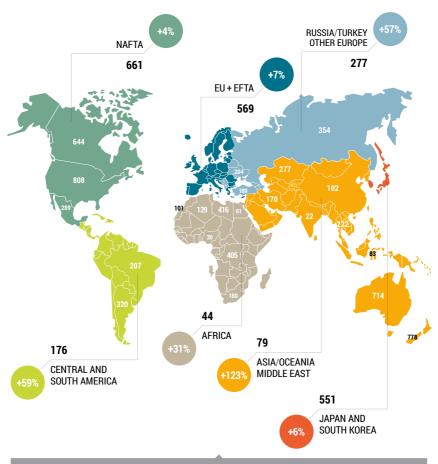






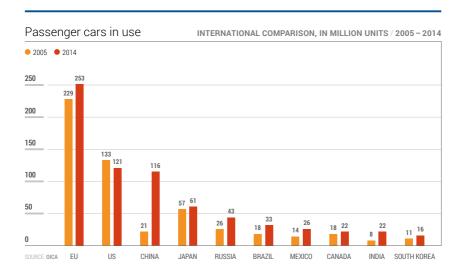
#### Motorisation rate per 1,000 inhabitants

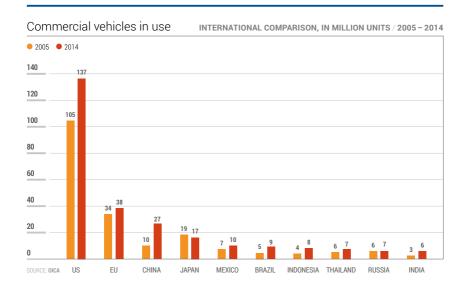
IN UNITS, % CHANGE 2014/2005



WORLD 180 vehicles per 1,000 inhabitants (+25%)

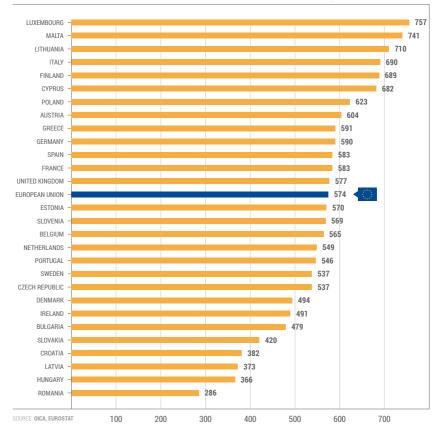
SOURCE: OICA

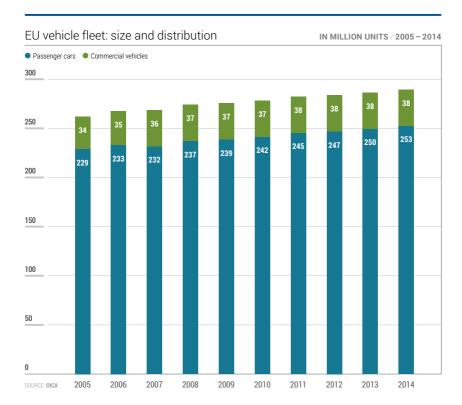






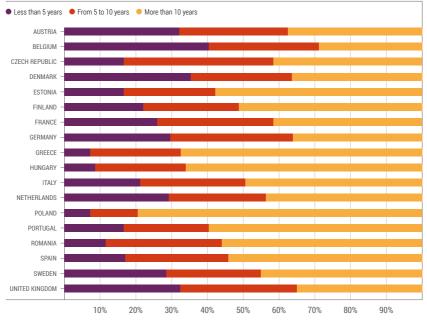
PER 1,000 INHABITANTS / 2014





#### Passenger car fleet by country and age

% SHARE / 2014

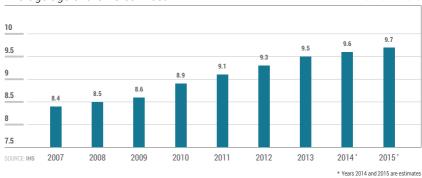


SOURCE: ANFAC VEHICLES IN USE REPORT

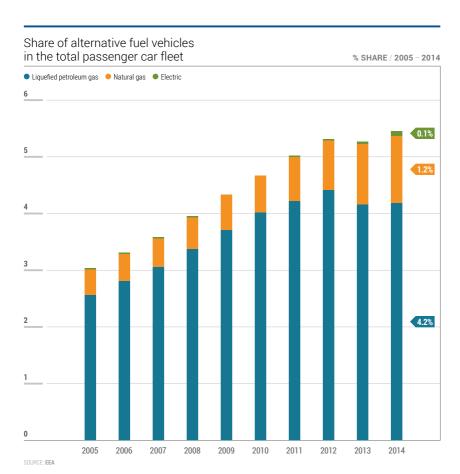
Note: Only countries for which sourced data is available are listed

#### Average age of the EU car fleet

IN YEARS / 2007 - 2015



The average age of cars in the EU is close to 10 years



# Trade

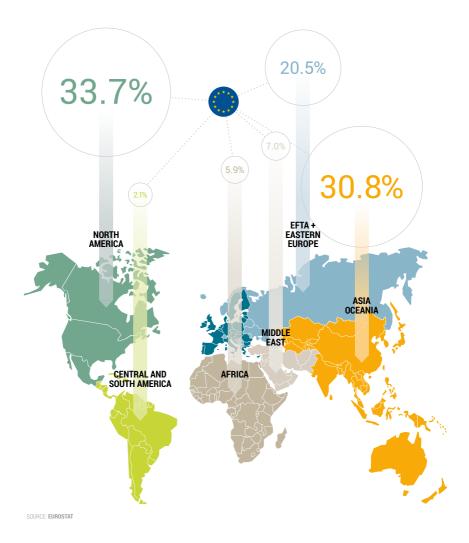






#### EU exports of motor vehicles

VALUE MARKET SHARE / 2015



Trade in value	PC <sup>1</sup>	LCV <sup>2</sup>	CV & BC <sup>3</sup>	TOTAL
2015				
Imports	32,488	5,003	1,560	39,051
Exports	129,104	3,957	6,382	139,443
Trade balance	96,616	-1,046	4,822	100,392
2014				
Imports	26,203	3,973	1,136	31,312
Exports	114,993	3,922	6,236	125,151
Trade balance	88,789	-51	5,100	93,838
% change 15/14				
Imports	24.0%	26.0%	37.4%	24.7%
Exports	12.3%	0.9%	2.4%	11.4%
Trade balance	8.8%	1951.2%	-5.5%	7.0%

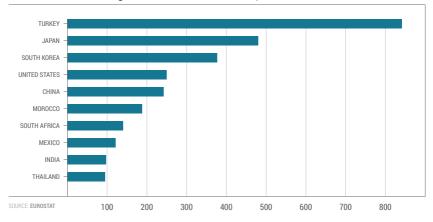
SOURCE: EUROSTAT

Trade in volume	PC <sup>1</sup>	LCV <sup>2</sup>	CV & BC 3	TOTAL
2015				
Imports	2,504,438	389,228	182,497	3,076,163
Exports	5,694,563	326,299	211,077	6,231,939
2014				
Imports	2,221,924	316,331	89,990	2,628,245
Exports	5,513,768	356,727	177,870	6,048,365
% change 15/14				
Imports	12.7%	23.0%	102.8%	17.0%
Exports	3.3%	-8.5%	18.7%	3.0%

Passenger cars
 Commercial vehicles up to 5t
 Commercial vehicles over 5t, including buses and coaches

#### Main countries of origin of EU motor vehicle imports

IN THOUSAND UNITS / 2015



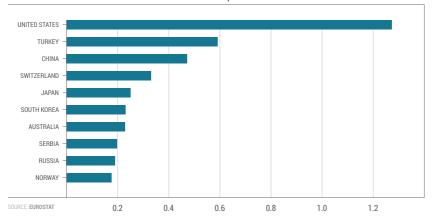
#### Main countries of origin of EU motor vehicle imports

IN UNITS / 2015

	2010	2011	2012	2013	2014	2015	% change 15/14	% share 2015
WORLD	2,494,969	2,634,179	2,462,253	2,442,309	2,628,245	3,076,163	17.0	100.0
Turkey	571,304	580,076	585,392	584,693	707,560	843,112	19.2	27.4
Japan	613,975	526,270	406,982	384,694	439,678	480,536	9.3	15.6
South Korea	299,765	388,230	408,266	406,376	348,815	376,142	7.8	12.2
United States	187,392	244,507	243,926	222,920	243,264	250,305	2.9	8.1
China	171,399	179,795	197,908	184,349	191,376	241,764	26.3	7.9
Morocco	4,904	20,302	64,625	99,503	168,995	188,369	11.5	6.1
South Africa	74,228	85,676	67,702	59,515	87,083	140,899	61.8	4.6
Mexico	137,767	183,971	179,622	107,429	76,118	121,799	60.0	4.0
India	227,561	234,197	162,652	175,464	107,775	98,503	-8.6	3.2
Thailand	44,445	40,471	25,270	41,066	68,184	94,903	39.2	3.1

#### Main destinations for EU motor vehicle exports

IN MILLION UNITS / 2015



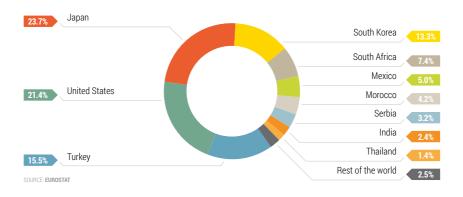
#### Main destinations for EU motor vehicle exports

IN UNITS / 2015

	2010	2011	2012	2013	2014	2015	% change 15/14	% share 2015
WORLD	4,741,601	6,410,008	6,466,867	6,696,077	6,048,365	6,231,939	3.0	100.0
United States	715,668	753,660	890,655	963,281	1,010,196	1,271,566	25.9	20.4
Turkey	384,028	434,647	395,544	533,957	416,496	591,897	42.1	9.5
China	349,774	552,300	534,965	596,703	613,632	472,994	-22.9	7.6
Switzerland	282,351	322,462	334,158	303,551	299,572	331,138	10.5	5.3
Japan	148,321	178,175	208,865	246,658	237,675	250,308	5.3	4.0
South Korea	66,201	77,006	96,325	118,431	177,485	230,840	30.1	3.7
Australia	141,354	157,364	190,833	188,738	183,085	229,922	25.6	3.7
Serbia	81,497	89,616	98,554	115,268	77,924	198,347	154.5	3.2
Russia	324,939	516,823	623,328	491,889	327,876	191,933	-41.5	3.1
Norway	168,656	179,249	171,934	227,358	170,682	177,062	3.7	2.8

#### Countries of origin of EU passenger car imports

VALUE MARKET SHARE / 2015



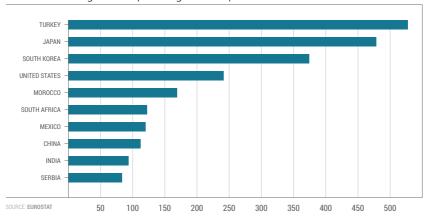
#### Countries of origin of EU passenger car imports

BY VALUE, IN MILLION € / 2015

_	2010	2011	2012	2013	2014	2015	% change 15/14	% share 2015
WORLD	22,384	25,161	24,724	23,785	26,203	32,488	24.0	100.0
Japan	7,557	7,487	6,262	5,894	6,685	7,692	15.1	23.7
United States	3,497	4,678	5,520	4,320	4,911	6,941	41.4	21.4
Turkey	3,416	3,417	3,162	3,523	4,363	5,051	15.8	15.5
South Korea	2,478	3,424	3,916	4,091	4,009	4,329	8.0	13.3
South Africa	846	896	548	586	1,208	2,400	98.7	7.4
Mexico	1,758	2,463	2,500	1,605	1,068	1,639	53.5	5.0
Morocco	10	163	608	763	1,225	1,369	11.7	4.2
Serbia	2	2	277	1,081	1,149	1,035	-10.0	3.2
India	1,301	1,570	1,059	1,077	722	765	6.0	2.4
Thailand	142	96	38	146	218	442	102.4	1.4

#### Countries of origin of EU passenger car imports

IN THOUSAND UNITS / 2015



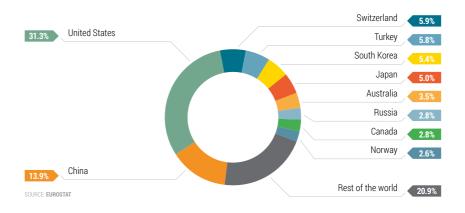
#### Countries of origin of EU passenger car imports

IN UNITS / 2015

2010	2011	2012	2013	2014	2015	% change 15/14	% share 2015
2,146,289	2,279,658	2,037,725	2,064,854	2,221,924	2,504,438	12.7	100.0
332,656	340,316	322,399	363,006	472,768	527,458	11.6	21.1
599,712	515,854	405,094	379,238	438,638	478,957	9.2	19.1
297,770	386,611	406,699	405,179	347,845	374,726	7.7	15.0
180,845	237,832	236,360	215,437	235,009	241,950	3.0	9.7
2,959	19,846	62,386	83,956	152,588	169,822	11.3	6.8
65,352	71,601	43,946	42,483	68,078	122,156	79.4	4.9
137,752	183,955	179,598	107,154	75,515	120,893	60.1	4.8
161,944	167,710	125,267	112,769	118,034	112,261	-4.9	4.5
226,101	233,045	162,077	175,034	107,306	93,941	-12.5	3.8
183	4,243	21,676	84,639	92,031	83,782	-9.0	3.3
	2,146,289 332,656 599,712 297,770 180,845 2,959 65,352 137,752 161,944 226,101	2,146,289         2,279,658           332,656         340,316           599,712         515,854           297,770         386,611           180,845         237,832           2,959         19,846           65,352         71,601           137,752         183,955           161,944         167,710           226,101         233,045	2,146,289         2,279,658         2,037,725           332,656         340,316         322,399           599,712         515,854         405,094           297,770         386,611         406,699           180,845         237,832         236,360           2,959         19,846         62,386           65,352         71,601         43,946           137,752         183,955         179,598           161,944         167,710         125,267           226,101         233,045         162,077	2,146,289         2,279,658         2,037,725         2,064,854           332,656         340,316         322,399         363,006           599,712         515,854         405,094         379,238           297,770         386,611         406,699         405,179           180,845         237,832         236,360         215,437           2,959         19,846         62,386         83,956           65,352         71,601         43,946         42,483           137,752         183,955         179,598         107,154           161,944         167,710         125,267         112,769           226,101         233,045         162,077         175,034	2,146,289         2,279,658         2,037,725         2,064,854         2,221,924           332,656         340,316         322,399         363,006         472,768           599,712         515,854         405,094         379,238         438,638           297,770         386,611         406,699         405,179         347,845           180,845         237,832         236,360         215,437         235,009           2,959         19,846         62,386         83,956         152,588           65,352         71,601         43,946         42,483         68,078           137,752         183,955         179,598         107,154         75,515           161,944         167,710         125,267         112,769         118,034           226,101         233,045         162,077         175,034         107,306	2,146,289         2,279,658         2,037,725         2,064,854         2,221,924         2,504,438           332,656         340,316         322,399         363,006         472,768         527,458           599,712         515,854         405,094         379,238         438,638         478,957           297,770         386,611         406,699         405,179         347,845         374,726           180,845         237,832         236,360         215,437         235,009         241,950           2,959         19,846         62,386         83,956         152,588         169,822           65,352         71,601         43,946         42,483         68,078         122,156           137,752         183,955         179,598         107,154         75,515         120,893           161,944         167,710         125,267         112,769         118,034         112,261           226,101         233,045         162,077         175,034         107,306         93,941	2010         2011         2012         2013         2014         2015         15/14           2,146,289         2,279,658         2,037,725         2,064,854         2,221,924         2,504,438         12.7           332,656         340,316         322,399         363,006         472,768         527,458         11.6           599,712         515,854         405,094         379,238         438,638         478,957         9.2           297,770         386,611         406,699         405,179         347,845         374,726         7.7           180,845         237,832         236,360         215,437         235,009         241,950         3.0           2,959         19,846         62,386         83,956         152,588         169,822         11.3           65,352         71,601         43,946         42,483         68,078         122,156         79.4           137,752         183,955         179,598         107,154         75,515         120,893         60.1           161,944         167,710         125,267         112,769         118,034         112,261         -4.9           226,101         233,045         162,077         175,034         107,306         93,941<

#### Destinations for EU passenger car exports

VALUE MARKET SHARE / 2015



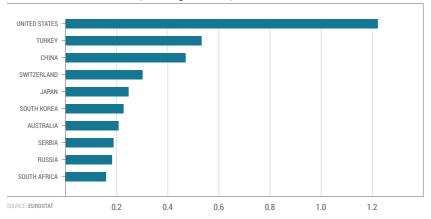
#### Destinations for EU passenger car exports

BY VALUE, IN MILLION € / 2015

_	2010	2011	2012	2013	2014	2015	% change 15/14	% share 2015
WORLD	75,882	93,326	107,967	111,594	114,993	129,104	12.3	100.0
United States	19,144	19,550	25,002	27,854	29,779	40,429	35.8	31.3
China	12,183	17,337	19,298	19,672	23,492	17,920	-23.7	13.9
Switzerland	5,236	6,659	6,859	6,193	6,375	7,617	19.5	5.9
Turkey	4,257	5,230	4,885	5,999	5,133	7,455	45.3	5.8
South Korea	1,682	1,956	2,497	3,127	4,693	6,911	47.3	5.4
Japan	3,846	5,093	6,310	6,404	5,996	6,462	7.8	5.0
Australia	2,759	3,179	3,498	3,633	3,482	4,582	31.6	3.5
Russia	4,063	7,016	8,744	7,049	5,198	3,669	-29.4	2.8
Canada	2,415	2,482	2,997	2,849	3,014	3,638	20.7	2.8
Norway	2,720	3,044	3,262	3,214	3,179	3,378	6.3	2.6

#### Main destinations for EU passenger car exports

IN MILLION UNITS / 2015



#### Main destinations for EU passenger car exports

IN UNITS / 2015

,	2010	2011	2012	2013	2014	2015	% change 15/14	% share 2015
WORLD	4,207,714	5,195,105	5,819,250	5,970,535	5,513,768	5,694,563	3.3	100.0
United States	709,299	732,974	880,698	952,634	998,504	1,221,867	22.4	21.5
Turkey	339,694	388,268	357,256	488,138	372,753	531,773	42.7	9.3
China	345,618	544,069	527,098	592,053	608,912	470,055	-22.8	8.3
Switzerland	256,358	292,362	305,492	275,536	270,741	302,311	11.7	5.3
Japan	148,192	175,442	208,265	246,550	236,833	247,299	4.4	4.3
South Korea	64,170	75,189	94,674	116,458	174,496	227,113	30.2	4.0
Australia	123,348	141,960	150,960	166,768	162,756	206,499	26.9	3.6
Serbia	66,464	80,001	90,866	105,595	71,015	189,117	166.3	3.3
Russia	291,237	470,909	566,094	439,755	301,107	181,665	-39.7	3.2
South Africa	94,261	123,414	116,207	129,555	118,078	158,614	34.3	2.8

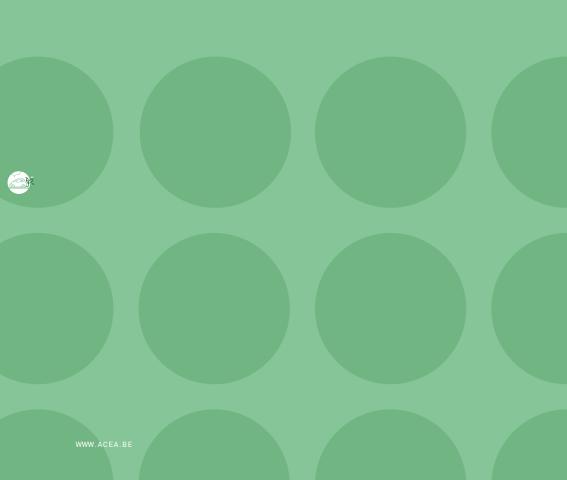
6

# Environment





ENVIRONMENT



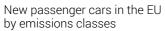
#### Average emissions of new passenger cars by country

IN G CO2/KM / 2015

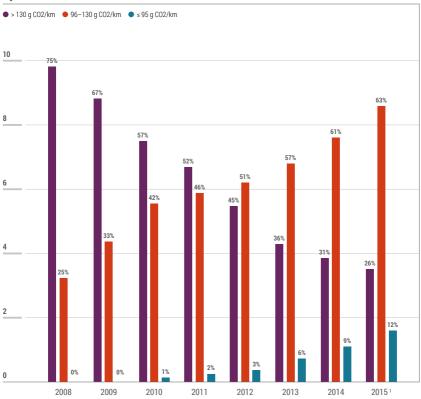
	2015 average emissions (g CO2/km)	% change 2015 — 2014
Austria	123.7	-3.8
Belgium	117.9	-2.9
Bulgaria	130.3	-4.2
Croatia	112.9	-2.5
Cyprus	125.8	-3.3
Czech Republic	126.3	-4.1
Denmark	106.2	-3.7
Estonia	137.2	-2.7
Finland	123.0	-3.5
France	111.0	-2.8
Germany	128.4	-3.1
Greece	106.4	-1.7
Hungary	129.6	-2.5
Ireland	114.3	-2.4
Italy	115.4	-2.4
Latvia	137.1	-2.3
Lithuania	130.0	-4.3
Luxembourg	127.5	-1.8
Malta	112.9	-1.9
Netherlands	101.2	-5.8
Poland	129.3	-2.6
Portugal	105.7	-2.9
Romania	125.0	-2.5
Slovakia	127.7	-3.1
Slovenia	119.2	-1.7
Spain	115.3	-2.8
Sweden	126.3	-3.6
United Kingdom	121.3	-2.7
EU average	119.6	-3.1
SOURCE: EEA		



Average CO2 emissions in 2015 (g CO2/km)

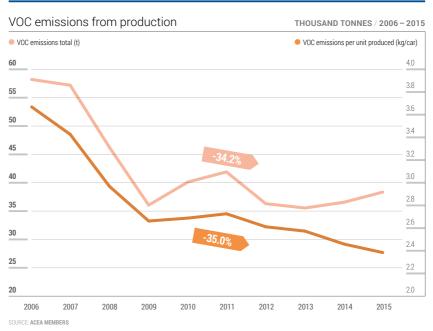


IN MILLION UNITS, % SHARE / 2008 - 2015



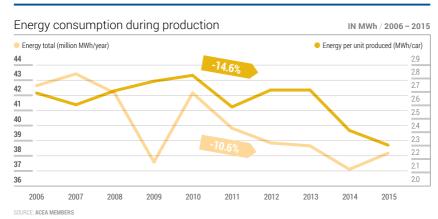
SOURCE: AAA (2008-2009), EEA (2010-2015). THE GEOGRAPHICAL SCOPE OF THE DATA CHANGES OVER TIME FROM EU-15 (2008-2009) TO EU-27 (2010-2013) AND EU-28 (2014-2015).

1. Provisional data



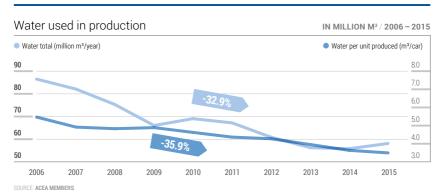
**Volatile organic compounds** (VOC) are organic solvents mainly emitted from paint shops. The graph shows VOC emissions per car produced and the absolute emissions of all car manufacturers combined. With new technologies, such as the replacement of solvent-based paints with solvent-free, water-based equivalents, manufactures have been able to reduce unit emissions by 35% over the last 10 years.

European manufacturers have significantly reduced the environmental impact of vehicle production over the last decade



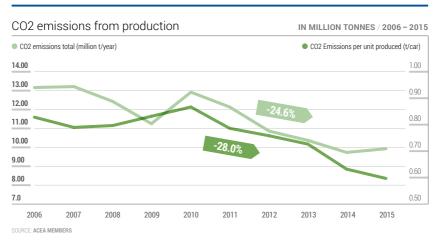
As cars have become equipped with ever more features to make them safer, cleaner and smarter, the complexity of vehicle production has increased. This increase in complexity affects energy demand.

Nevertheless, manufacturers have been working continuously to improve the **energy efficiency** of production. As a result, energy consumption per car produced has been decreased by 14.6% over the last decade. Fluctuations in energy consumption can be explained by lower production volumes, especially during the economic crisis, as well as variable weather conditions in some years.

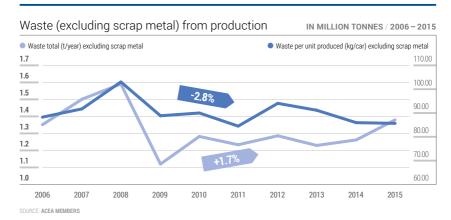


European automobile manufactures have significantly reduced the environmental impact of vehicle production over the last decade

 $Long-term\ strategies\ for\ reducing\ \textbf{water}\ \textbf{consumption}\ have\ made\ it\ possible\ to\ reduce\ water\ use\ per\ car\ produced\ by\ 35.9\%\ between\ 2006\ and\ 2015.$ 



The CO2 emissions per car produced dropped by 28% between 2006 and 2015, while the overall figure went down by 24.6% over the same period, reflecting the industry's efforts to reduce CO2 emissions.



The waste generated per unit produced by the manufacturing of passenger cars went down by 2.8% over ten years. Waste fluctuations, both in absolute and per unit terms can be explained by the occurrence of singular events, such as a fall in total production during the economic crisis.

## Innovation



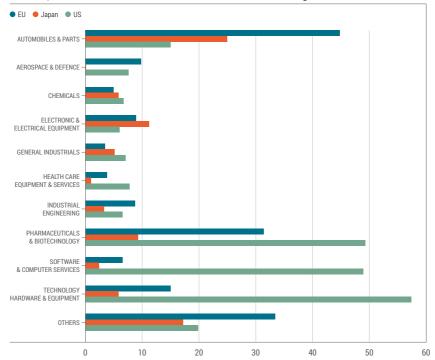






R&D expenditure of industrial sectors in the main world regions

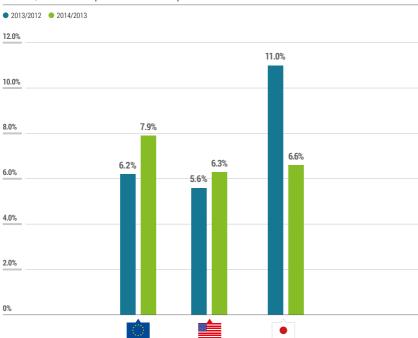
IN BILLION € / 2014



SOURCE: THE 2015 EU INDUSTRIAL R&D INVESTMENT SCOREBOARD, EUROPEAN COMMISSION

## R&D growth in the automobile and parts sector for EU, US and Japan-based companies

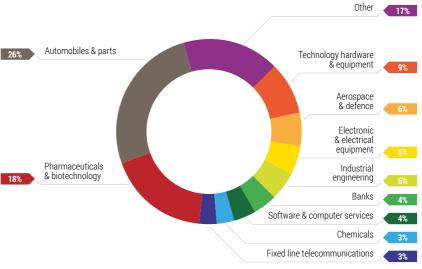
% CHANGE



SOURCE: THE 2015 EU INDUSTRIAL R&D INVESTMENT SCOREBOARD, EUROPEAN COMMISSION

#### R&D shares of sectors in the EU

%SHARE / 2014



SOURCE: THE 2015 EU INDUSTRIAL R&D INVESTMENT SCOREBOARD, EUROPEAN COMMISSION

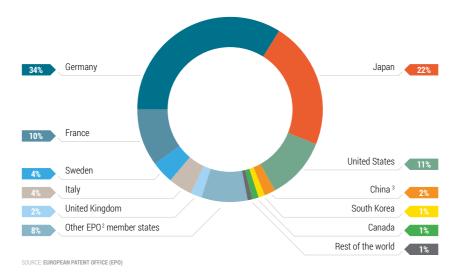
IN MILLION € / 2014

	R&D 2014
Automobiles & parts	44,736
Pharmaceuticals & biotechnology	31,401
Technology hardware & equipment	15,024
Aerospace & defence	9,900
Electronic & electrical equipment	8,924
Industrial engineering	8,778
Banks	7,564
Software & computer services	6,542
Chemicals	5,029
Fixed line telecommunications	4,260
• Other	28,840

SOURCE: THE 2015 EU INDUSTRIAL R&D INVESTMENT SCOREBOARD, EUROPEAN COMMISSION

#### Patents granted in the automotive sector 1

% SHARE / 2015



Patents	BY COUNTRY / 2015
Germany	2,058
■ France	609
■ Italy	268
■ Sweden	221
United Kingdom	146
other EPO member states <sup>2</sup>	501
■ Japan	1,291
United States	657
China <sup>3</sup>	90
South Korea	46
■ Canada	39
Rest of the world	70
Total	5,996
COURCE FURDIFIAN DATENT OFFICE (FDO)	

SOURCE: EUROPEAN PATENT OFFICE (EPO)

- Includes categories B60, B62, F02 and F16 B60: Vehicles in general
- B62: Land vehicles for travelling otherwise than on rail F02: Combustion engines; hot-gas or combustion-product engine plants
- F16: Engineering elements or units; general measures for producing and maintaining effective functioning of machines or installations; thermal insulation in general
- Includes Liechtenstein, Monaco, Turkey and the other EU+EFTA countries
- 3. Includes Taipei

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THE AUTOMOBILE INDUSTRY

## Taxation









#### CO2-based motor vehicle taxes in the EU in 2016

COUNTRY	CO2 / FUEL CONSUMPION TAXES			
Austria	Fuel consumption tax (CO2-based) levied on the first car registration of a car. CO2-based company car tax.			
Belgium	CO2-based registration tax (Wallonia).  Registration tax based on CO2 emissions, Euro standards, fuel consumption and age (Flanders Annual circulation tax based on CO2 emissions (Flanders). CO2-based company car tax.			
Croatia	Registration tax based on price, CO2 emissions and fuel consumption.			
Cyprus	Registration tax and annual circulation tax based on CO2 emissions.			
Denmark	Annual circulation tax based on fuel consumption. Registration tax (based on price) linked to fuel consumption.			
Finland	Registration tax and annual circulation tax based on CO2 emissions.			
France	Annual circulation tax and company car tax based on CO2 emissions.  Under a bonus-malus system, a premium or a malus is applied based on vehicle's CO2 emissions.			
Germany	CO2-based annual circulation tax.			
Greece	CO2-based annual circulation tax.			
Ireland	Registration tax and annual circulation tax based on CO2 emissions.			
Latvia	CO2-based registration tax.			
Luxembourg	CO2-based annual circulation tax.			
Malta	Registration tax based on price, CO2 emissions and vehicle length. Annual circulation tax based on CO2 emissions and age.			
Netherlands	Registration tax, annual circulation tax and company car tax based on CO2 emissions.			
Portugal	Registration tax based on cc and CO2 emissions. Annual circulation tax based on cc, CO2 emissions and age.			
Romania	Registration tax based on CO2 emissions, cc, exhaust emissions and age.			
Slovenia	CO2-based registration tax.			
Spain	CO2-based registration tax.			
Sweden	Annual circulation tax based on CO2 emissions and exhaust emissions.  Five year exemption from paying annual circulation tax (CO2-based).  Super green car premium new cars (CO2-based).			
United Kingdom	Annual circulation tax and company car tax based on CO2 emissions.			

SOURCE: ACEA TAX GUIDE 2016

#### Overview of purchase and tax incentives for electric vehicles in the EU in 2016

COUNTRY	INCENTIVES				
Austria	EVs exempt from fuel consumption tax and monthly vehicle tax.				
Belgium	EVs and PHEVs exempt from registration tax (Flanders). EVs pay the lowest rate of tax under the annual circulation tax. Reduction of company car taxation (CO2-based).				
Bulgaria	EVs exempt from annual circulation tax.				
Czech Republic	Electric, HEVs and other AFVs exempt from road tax.				
Denmark	Electric, hydrogen and fuel cell-powered vehicles exempt from registration tax.				
Finland	EVs pay the minimum rate of the CO2 based registration tax.				
France	Regions can provide exemption from regitration tax (total or 50%) for AFVs. EVs and HEVs benefit from a premium (CO2-based). EVs exempt from company car tax (hybrids exempt for the first two years).				
Germany	EVs exempt from paying annual circulation tax for 10 years.				
Greece	EVs and HEVs exempt from registration tax, luxury tax and luxury living tax.  Electric and hybrid passenger cars exempt from annual circulation tax (based on cc).				
Hungary	EVs exempt from registration tax, annual circulation tax and company car tax.				
Ireland	EVs, PHEVs, HEVs and other AFVs benefit from registration tax relief. EVs pay the minimum rate of the road tax.				
Italy	EVs exempt from annual circulation tax for five years.				
Latvia	EVs exempt from registration tax and pay the lowest amount of the company car tax.				
Luxembourg	EVs pay the minimum rate of the annual circulation tax.				
Netherlands	EVs exempt from registration tax. Vehicles exempt from annual circulation tax (CO2-based).				
Portugal	EVs exempt from registration tax and annual circulation tax. HEVs benefit from a reduction of the registration tax.				
Romania	Electric and hybrid vehicles exempt from registration tax. EVs also exempt from the annual circulation tax.				
Slovakia	EVs exempt from registration tax and annual circulation tax. HEVs benefit from a reduction of the annual circulation tax.				
Spain	Main city councils are reducing the annual circulation tax for electric and fuel-efficient vehicles.				
Sweden	Five year exemption from paying annual circulation tax (CO2-based). Super green car premium new cars (CO2-based). Reduction of company car taxation for EVs and PHEVs.				
United Kingdom	Purchase grant for EVs and PHEVs (CO2-based). EVs exempt from annual circulation tax.				
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SOURCE: ACEA TAX GUIDE 2016

AFV: alternative fuel vehicles EV: Electric vehicles HEV: Hybrid electric vehicles PHEV: Plug-in hybrid eletric vehicles

#### Fiscal income from motor vehicles in the EU<sup>1</sup>

	AUSTRIA	AUSTRIA BELGIUM DE	DENMARK	RK FINLAND	FRANCE	GERMANY	GREECE
	€ bn 2014	€ bn 2012	DKK bn 2014	€ bn 2014	€ bn 2014	€ bn 2014	€ bn 2014
Purchase or transfer							
VAT on vehicle sales     servicing/repair, parts, tyres	2.678	6.06	NA	1.552	13.744	26.319	NA
2. Fuels & lubricants	5.338	7.534	16.607	4.182	37.103	39.304	3.578
3. Sales & registration taxes	0.52	0.408	15.865	0.918	2.071	-	0.093
Annual ownership taxes	2.1	1.512	10.592	0.878	0.997	8.991	1.155
Driving license fees	_	0.007	-	_	_	0.01	_
Insurance taxes	0.324	0.934	1.579	0.378	4.59	3.786	_
Tolls	1.688	-	0.381	-	11.027	-	_
Customs duties	_	_	_	_	_	0.535	_
Other taxes	0.312	0.759	-		1.579	1.01	0.213
TOTAL	12.960	17.214	45.024	7.908	71.111	79.955	5.039
EURO	13.0	17.2	6.0	7.9	71.1	80.0	5.0
	IRELAND	ITALY	NETHER- LANDS	PORTUGAL	SPAIN	SWEDEN	UNITED KINGDOM
	€ bn 2015	€ bn 2014	€ bn 2014	€ bn 2015	€ bn 2014	SEK bn 2014	£ bn 2012
Purchase or transfer							
VAT on vehicle sales servicing/repair, parts, tyres	0.601	14.73	1.858	1.85	_	22	12.5
2. Fuels & lubricants	3.028	37.91	7.874	2.53	19.19	47.3	26.7
3. Sales & registration taxes	0.684	1.37	1.495	0.573	3.123	_	_
Annual ownership taxes	1.124	6.1	3.901	0.525	2.791	12.4	5.88
Driving license fees	_	_	0.28	_	0.056	_	_
Insurance taxes	_	4.44	0.907	_	_	2.8	_
Tolls	_	1.86	_	0.26	_	1.7	_
Customs duties	-	_	_	0.04	_	-	_
Other taxes	-	5.4	1.667	0.16	0.593	4.2	1.5
TOTAL	5.437	71.810	17.982	5.938	25.753	90.400	46.580
EURO	5.4	71.8	18.0	5.9	25.8	9.6	64.8

#### GRAND TOTAL = € 401.5 bn

SOURCE: ACEA TAX GUIDE 2016

1. Latest available data; no data are available for other EU member states

### Share of VAT in net price of cars



SOURCE: ACEA TAX GUIDE 2016

### Excise duties on fuels in €/1,000 litres

	UNLEADED PETROL	DIESEL 1
Austria	515	425
Belgium	619	480
Bulgaria	363	330
Croatia	505	401
Cyprus	479	450
Czech Republic	473	403
Denmark	611	416
Estonia	423	393
Finland	681	506
France	641	498
Germany	670	486
Greece	670	330
Hungary	384	353
Ireland	588	479
Italy	728	617
Latvia	436	341
Lithuania	434	330
Luxembourg	465	338
Malta	549	472
Netherlands	770	484
Poland	393	344
Portugal	618	402
Romania	462	430
Slovakia	551	386
Slovenia	545	462
Spain	425	331
Sweden	673	623
United Kingdom	674	674
EU minimum rates	359	330

SOURCE: ACEA TAX GUIDE 2016







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