



World Major Household Appliances Demand & Supplies and Porcelain (Vitreous) Enamels usage

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Source of information

- Press release of Household Appliances Manufacturers
- Household Appliances dedicated magazines
- Appliance Magazine
- Specialized Marketing Magazine
- Sectorial financial and economic reporting on international and national newspapers
- Household appliances companies balance sheets
- Dedicated surveys on household appliances business by international banks (ex.: international comparison program by Mundial Bank)
- Sectorial Industrial Associations Reports(ex.: CECED)
- Sectorial Components Suppliers
- Sectorial Raw materials Suppliers

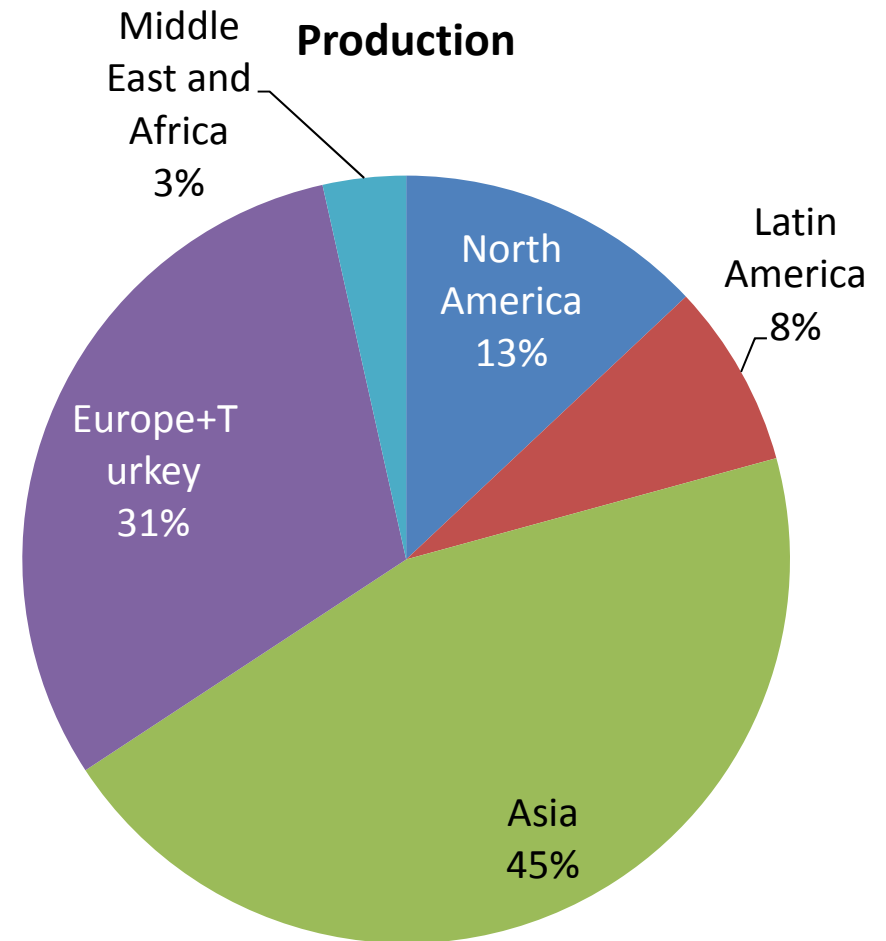
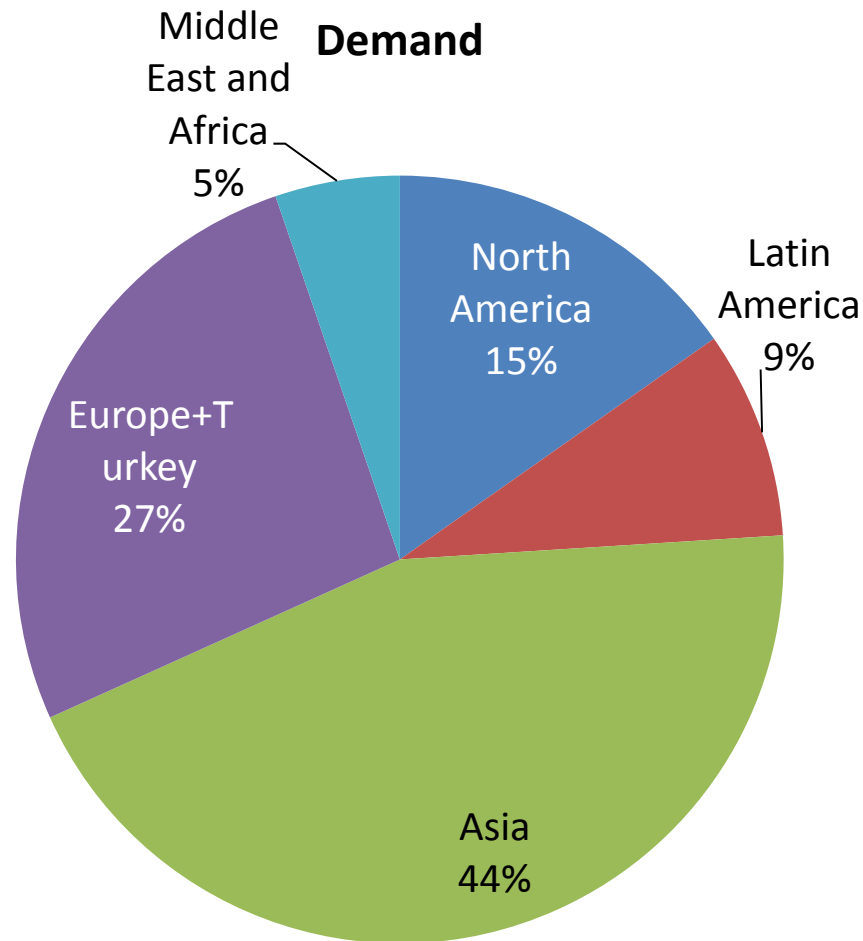


2014's World Major Household Appliances Demand & Supplies Volumes

							SALES	PROD.	DELTA
		LAUNDRY	COOLING	DISHWAS	COOKING	HOODS	TOTAL	TOTAL	SALES PRODUC.
		Kp.p.a.	Kp.p.a.	Kp.p.a.	Kp.p.a.	Kp.p.a.	Kp.p.a.	Kp.p.a.	Kp.p.a.
North America		20.300	19.000	6.500	14.000	1.200	61.000	52.000	-9.000
Latin America		11.700	11.000	500	10.300	1.500	35.000	31.000	-4.000
Asia		51.300	72.300	2.000	28.300	23.100	177.000	180.000	3.000
Europe + Turkey		28.800	29.000	11.500	27.800	8.900	106.000	123.000	14.500
Middle East + Africa		5.100	7.700	600	7.300	300	21.000	14.000	-7.000
Total Market		117.200	139.000	21.100	87.700	35.000	400.000	400.000	0



2014's WORLD MAJOR HOUSEHOLD APPLIANCES DEMAND & PRODUCTION



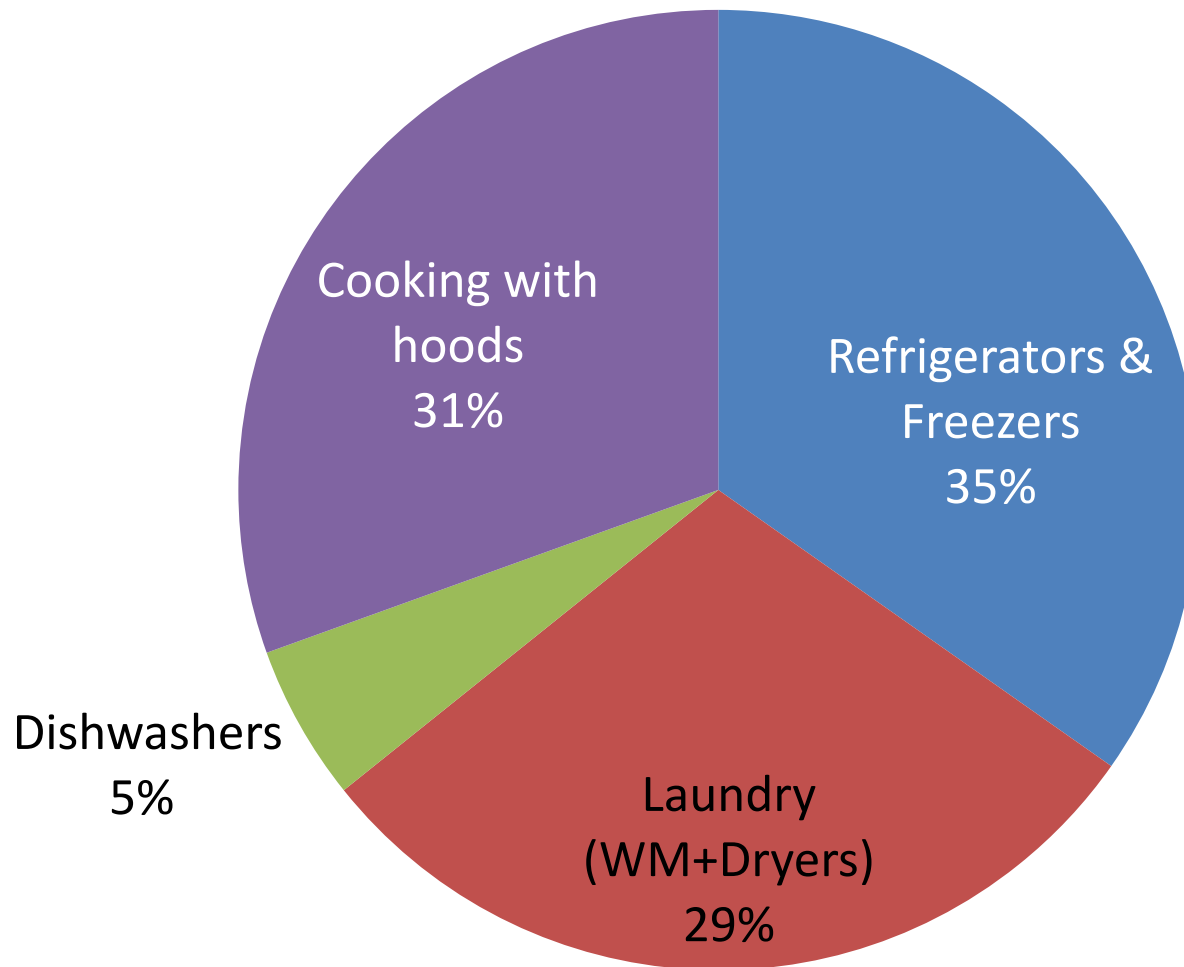


World Major Household Appliances by product

Million units

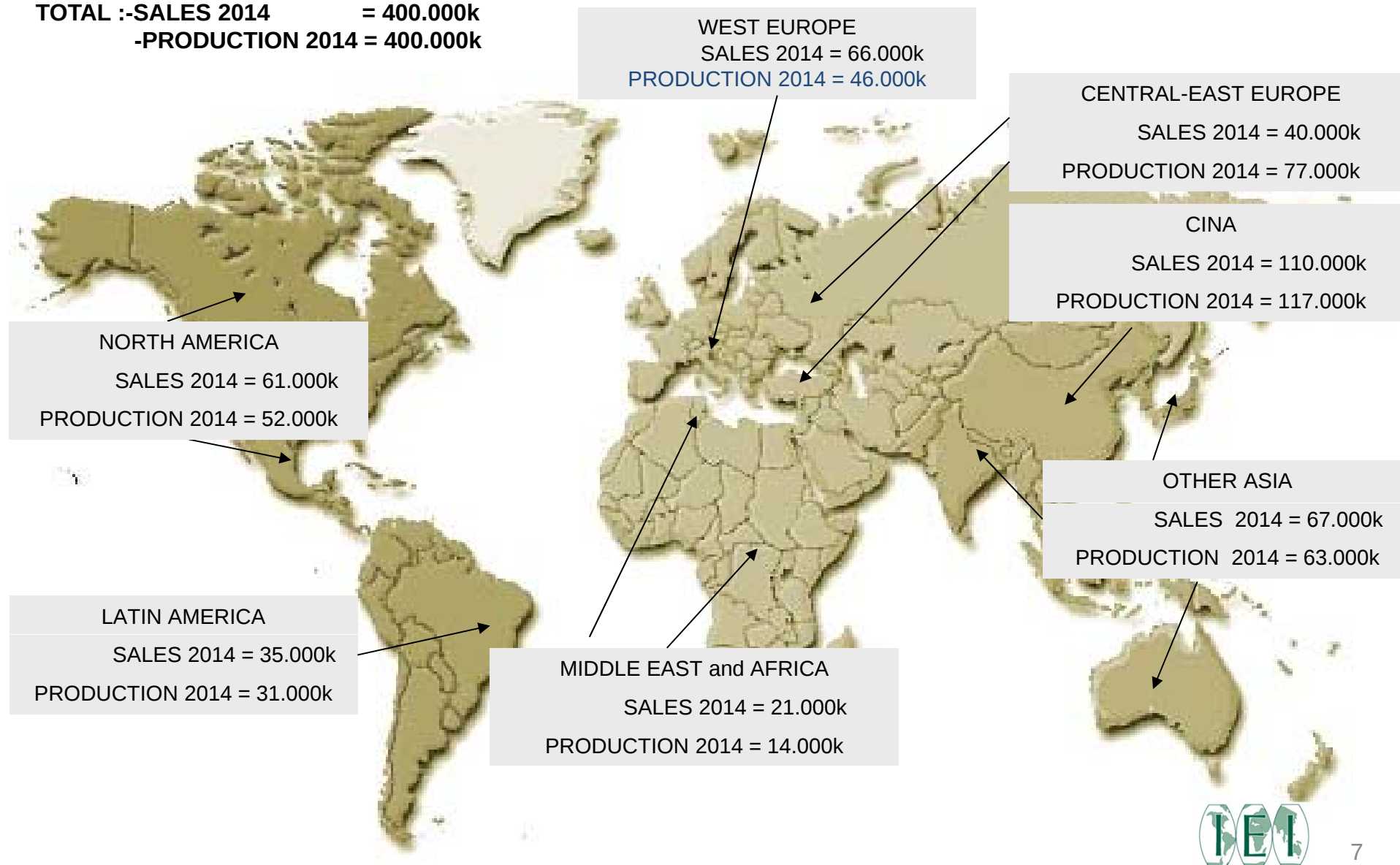
	2010	2014	2018
Demand	343	400	429
Refrigerators & Freezers	120	139	148
Laundry (WM+Dryers) <i>di cui WM</i> <i>di cui Dryers</i>	97 83 14	118 99 19	130 106 24
Dishwashers	18	21	23
Cooking with hoods	108	122	128

2014's World Major Household Appliances by product



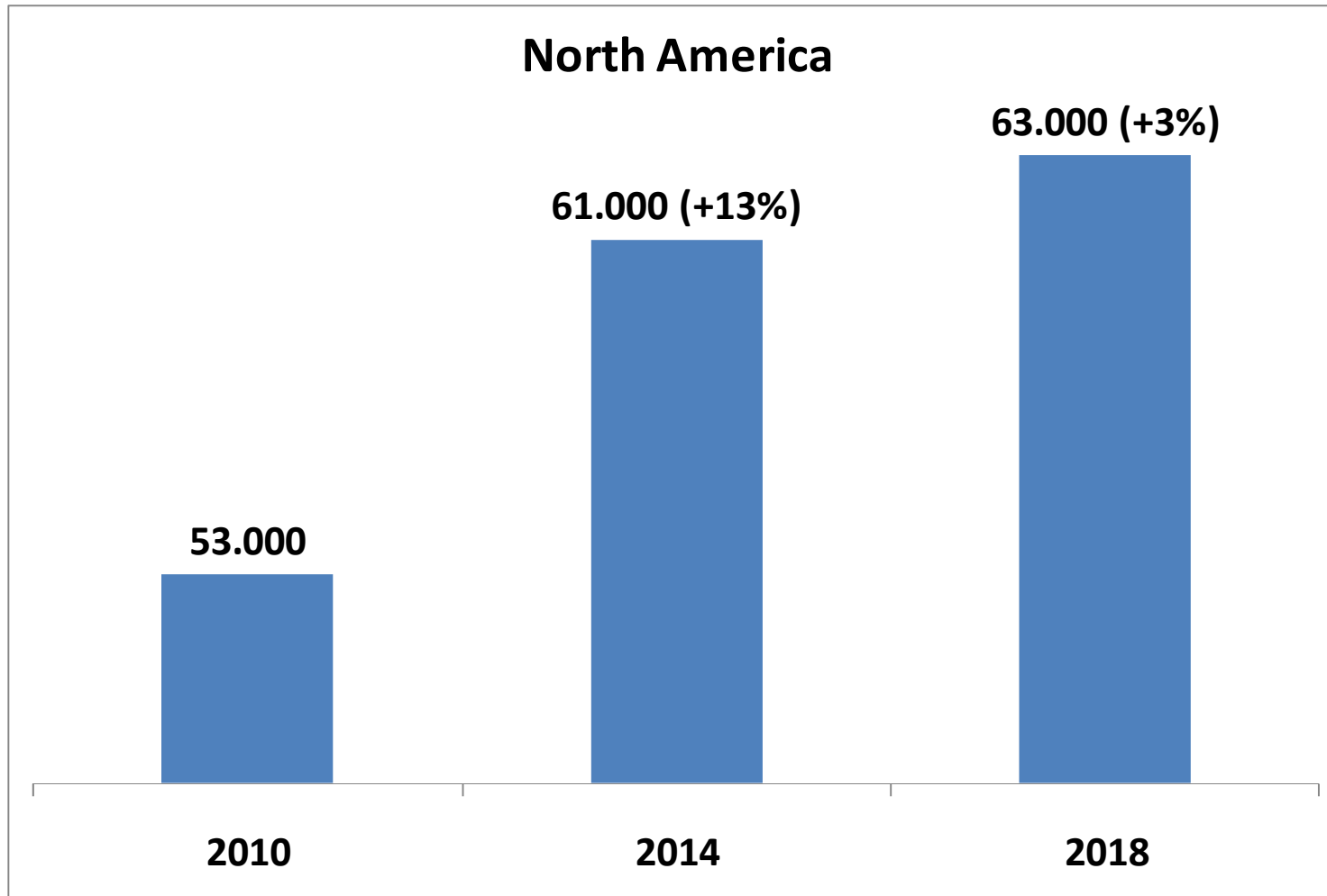
2014 's World Major Household Appliances Volumes (including HOODS 34.400k) kp.p.a.

TOTAL :-SALES 2014 = 400.000k
-PRODUCTION 2014 = 400.000k



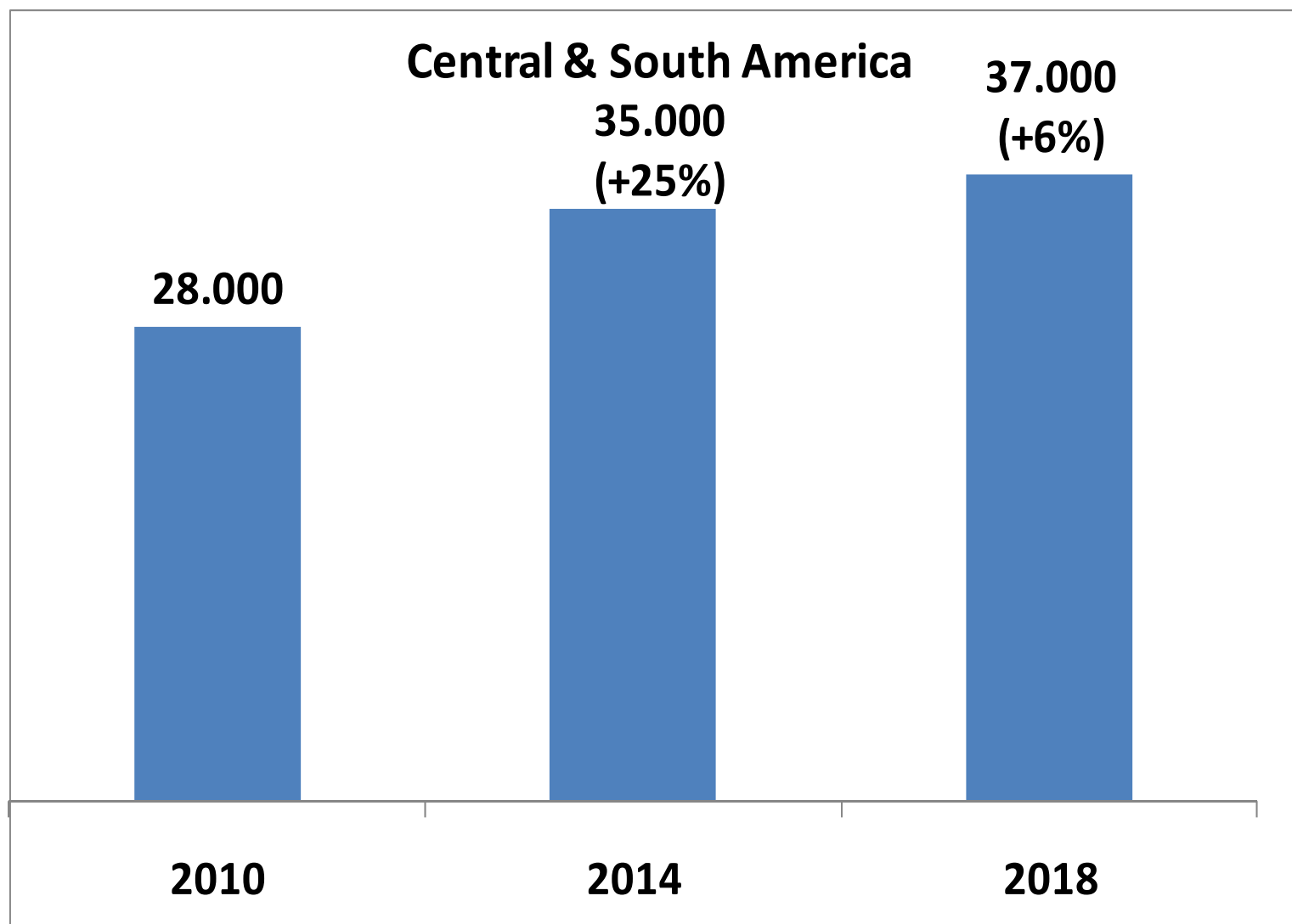
Region Major Household Appliances Market Trend (x 1000)

(WM, Dryers, Refrigerators, Freezers, Ranges, Ovens, Hobs, Hoods)



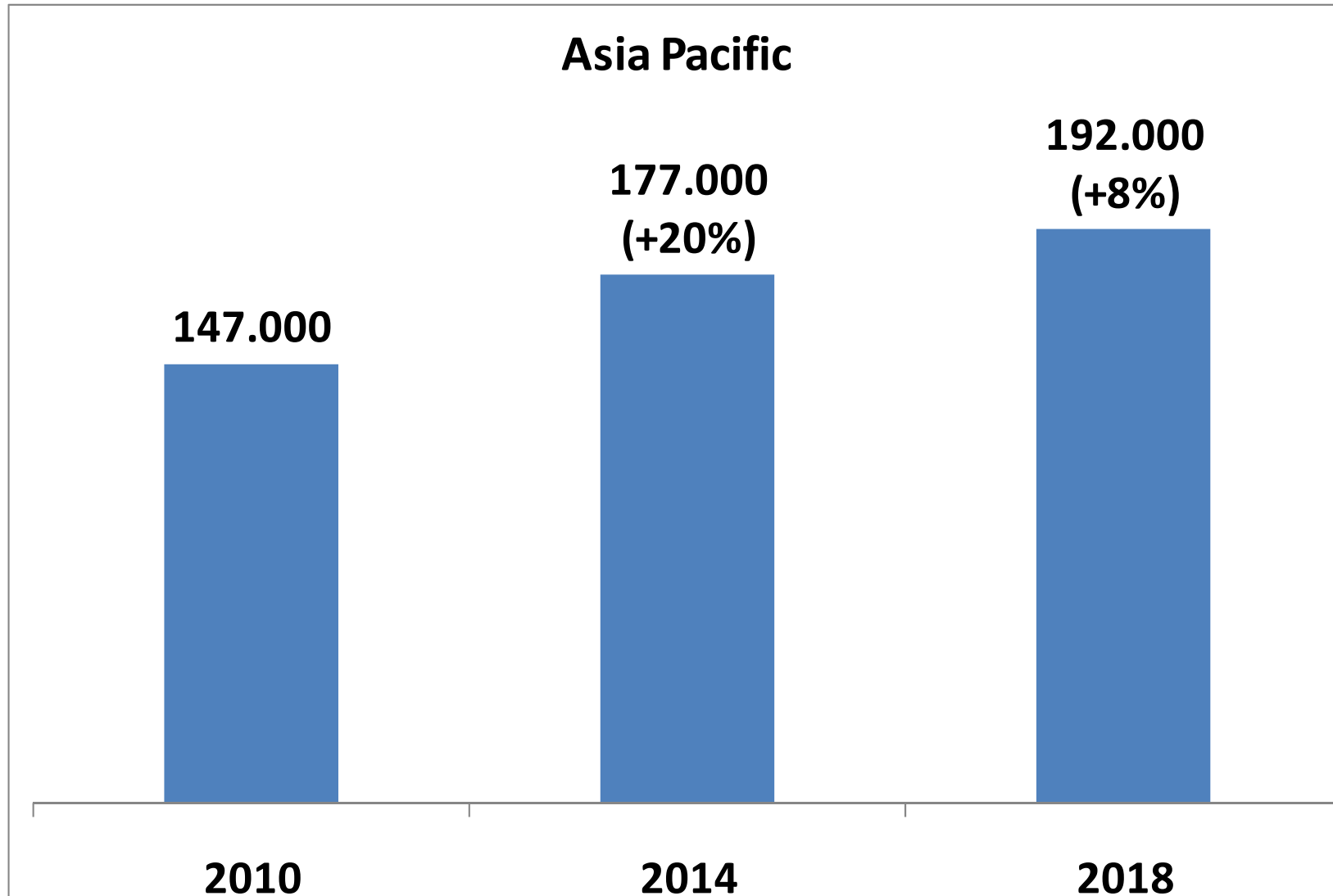
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(WM, Dryers, Refrigerators, Freezers, Ranges, Ovens, Hobs+Hoods)



Region Major Household Appliances Market Trend (x 1000)

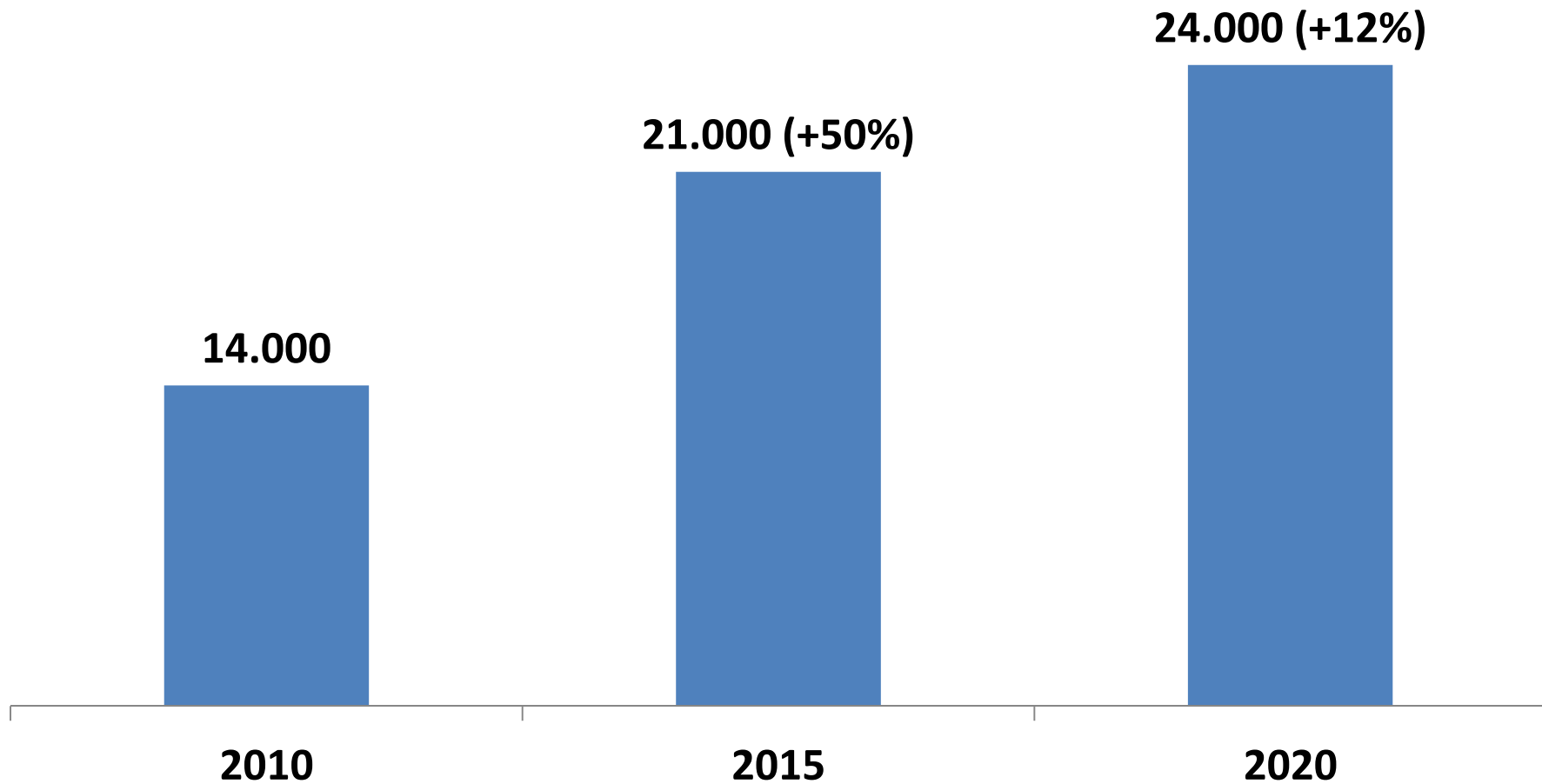
(WM, Dryer, Refrigerators, Freezers, Ranges, Ovens, Hobs, Hoods)



Region Major Household Appliances Market Trend (x 1000)

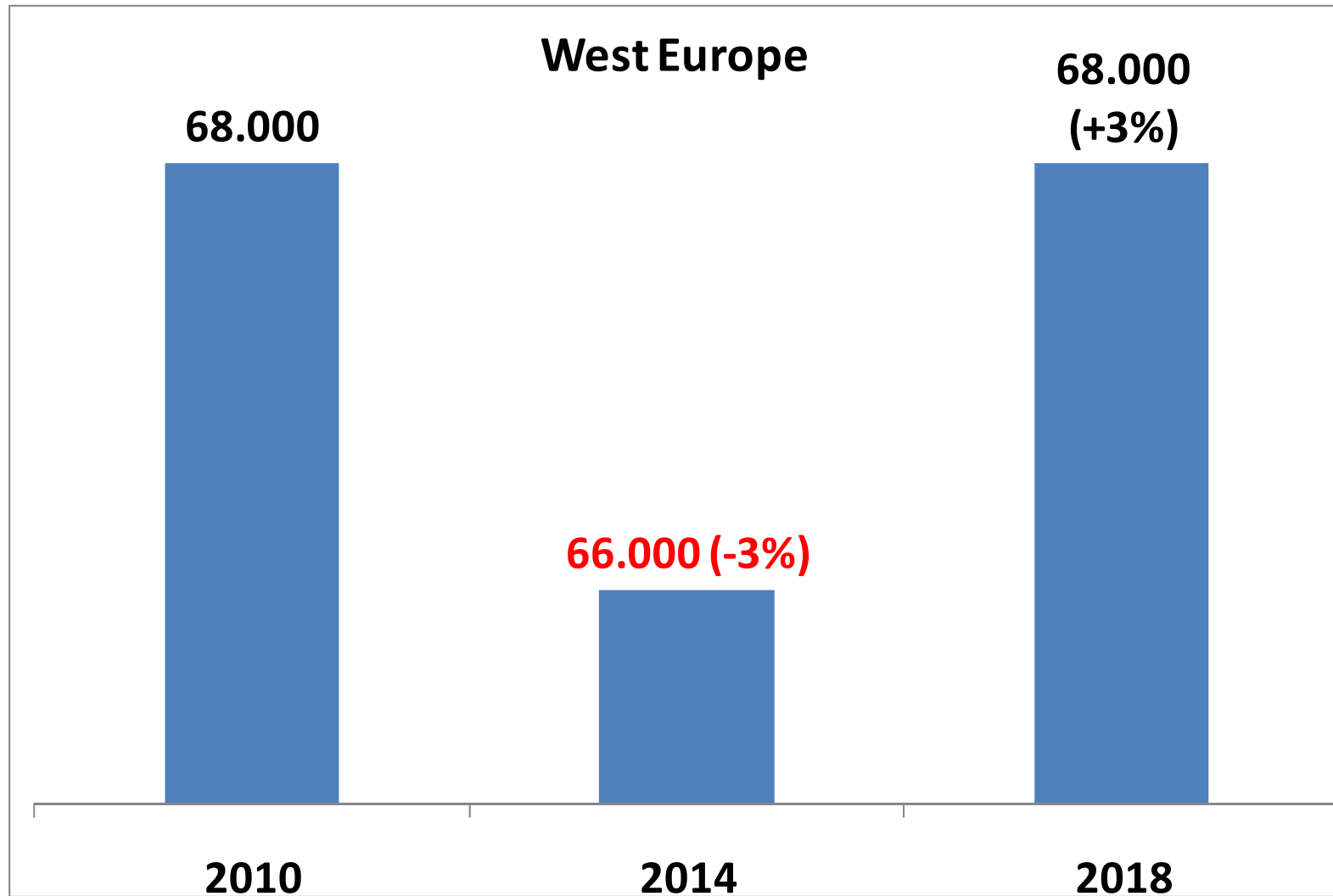
(WM, Dryers, Refrigerators, Freezers, Ranges, Ovens, Hobs, Hoods)

Africa/ Middle East



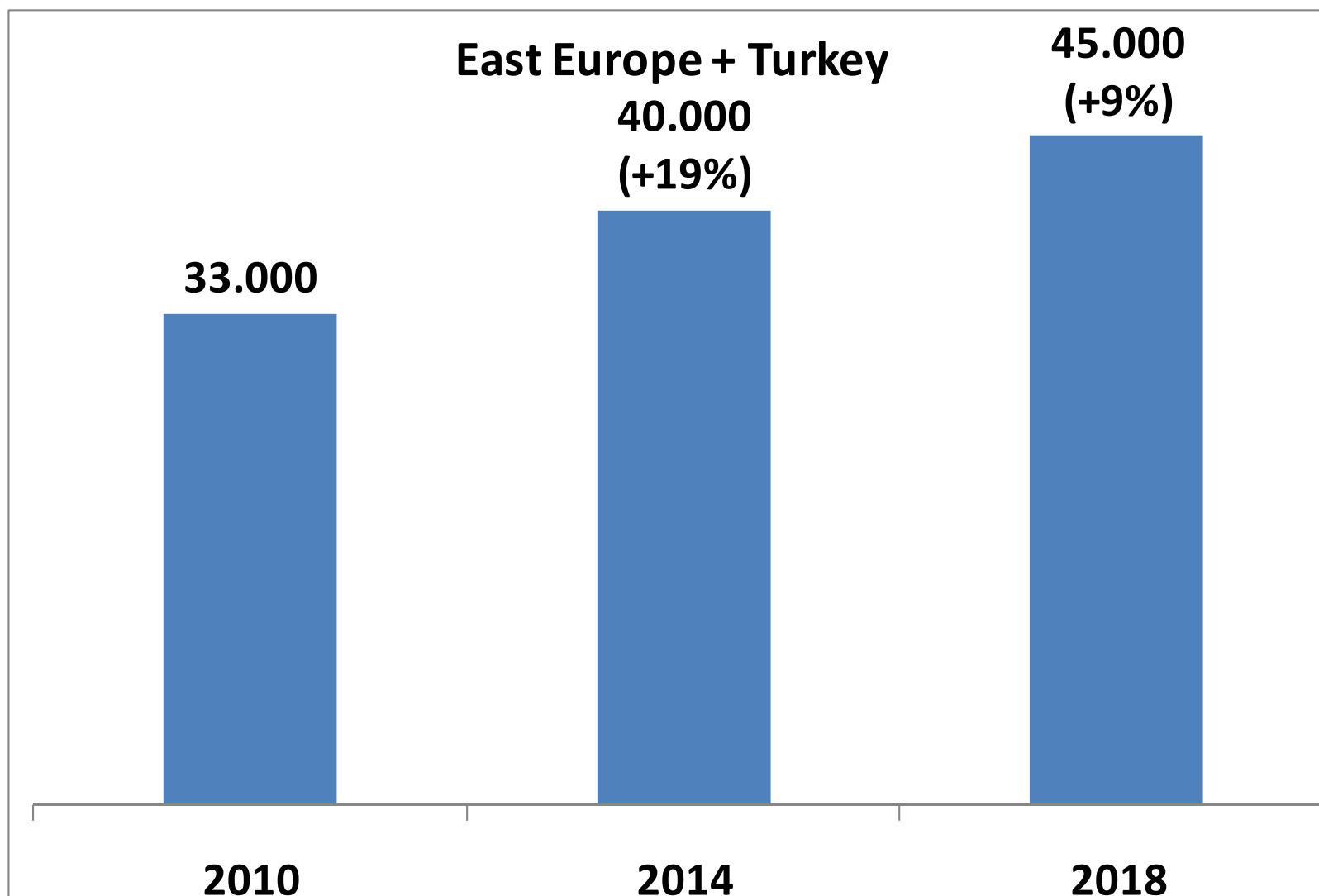
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Region Major Household Appliances Market Trend (x 1000)

(WM, Dryers, Refrigerators, Freezers, Ranges, Ovens, Hobs, Hoods)



2014 's World Major Household Appliances

First 5 top manufactures

(WM,Dryers,DW,Refrigerators,Frizeers,Ranges,Ovens,Hobs(without Microwaves)

1) Whirlpool	65 (includ. INDESIT)
2) Haier	31
3) BSH	27
4) LG	26
5) Electrolux	30 (includ. G.E.)
Total	179

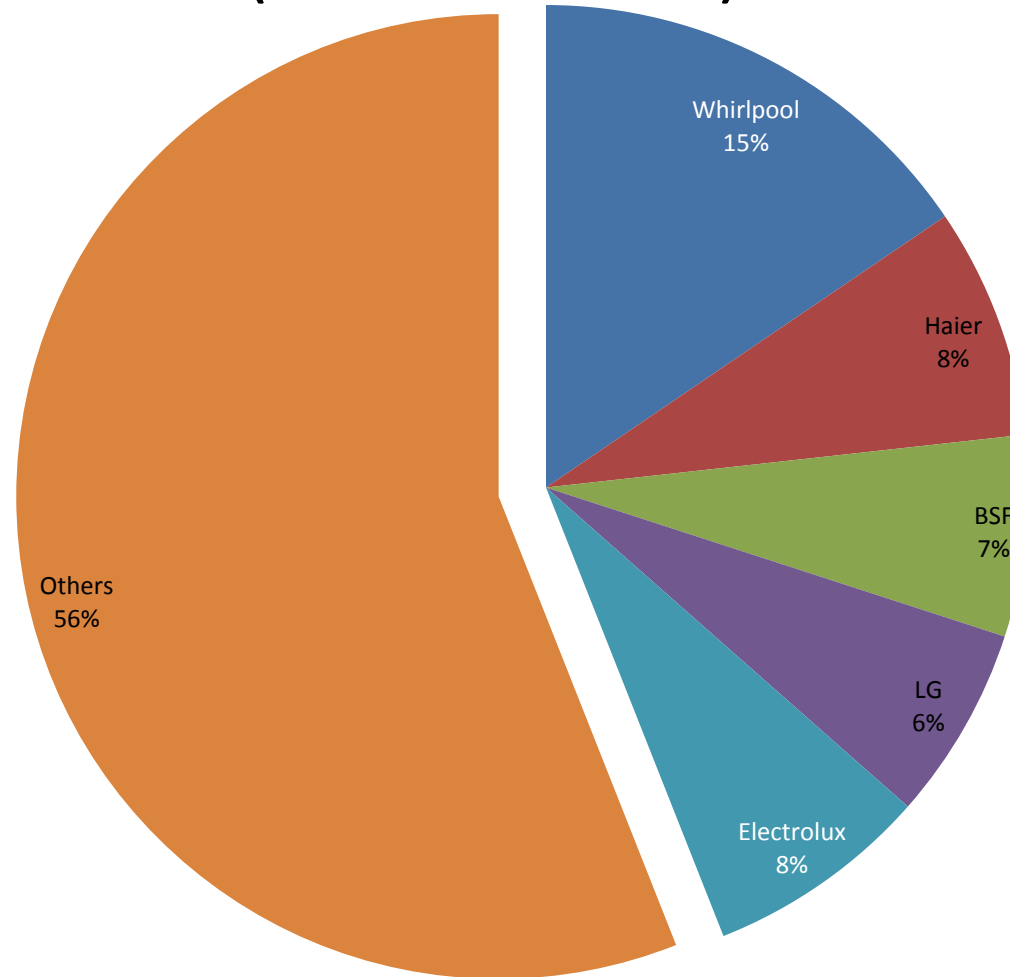
Accounting for 44% of the total production



2014 's World Major Home Appliances

First 5 top manufactures

(WM,Dryers,DW,Refrigerators,Frizeers,Ranges,Ovens,Hobs,Hoods
(without Microwaves)



World Major Household Appliances Market Globalization

- Market of major household Appliances moving towards globalization
- Small Medium Sized companies being taken over by major players



Globalization & takeover (I)

• COMPANY	SUPPLY	PRODUCTS
• Samsung	Amica (PL)	WM+Cooling
• Indesit	GDA (UK)	WM+Cooling+Dryers+Cooking
• Indesit	Stinol (CSI)	Cooling
• Electrolux	Ex A. Merloni(Ukraine)	WM
• Electrolux	Olimpic (Egypt)	WM+Cooling+Cooking
• Electrolux	C T I (Cile)	Cooking
• Electrolux	G.E. (USA)	WM+ Dryers+Cooling+Cook.
• Gorenje	Ex A.Merloni(Finlandia)	DW+Cooking (ASKO)
• Gorenje	Atag(Holland)	Cooking
• Gorenje	Mora Moravia(C.Rep.)	Cooking

Globalization & takeover (II)

COMPANY	SUPPLY	PRODUCTS
Fisher & Paykel	Ex Elba (IT)	Cooking
Haier	Meneghetti (IT)	Cooling
Arcelik	Artic (RO)	Cooling
Arcelik	Defy Appliances (S.Africa)	Cooling+WM+DW+Cooking
Fagor-Brandt	Mastercook (PL)	WM+Cooking+Cooling
Panasonic	10%Gorenje (Slovenie)	WM+DW+Dryers+Cooling+Cooking
Whirlpool	Polar (PL)	Cooling
Whirlpool	Maitag (USA)	WM+DW+Dryers+Cooling+Cooking
Whirlpool	K I C (S.Africa)	Cooling
Whirlpool	Sanyo (Cina)	WM+Cooling
Whirlpool	Indesit	WM+DW+Dryers+Cooling+Cooking

Globalization & takeover (III)

• COMPANY	SUPPLY	PRODUCTS
• Meneghetti	Fulgor (IT)	Cooking
• Polisteel (IRAN)	Lofra	Cooking
• Nortek (USA)	Best (IT)	Hoods
• Franke(IT)	Faber (IT)	Hoods
• Elica (IT)	Putian (India)	Hoods
• Midea (China)	Little Swan (China)	WM+DW+Cool.+Cooking
• Mabe (Mexico)	BSH Continental(Brasile)	WM+DW+Cool.+Cooking
. Candy	Hoover	WM+Dryers+Cooling+DW
• Tecno	Ex A Merloni(Tecnogas)	Cooking
. J P	Ex A.Merloni (Fabriano)	WM+Dryers+Cooling

Pillars supporting Major Household Appliance Business

- **Population**
- **Gross Domestic Product (GDP)**
- **Gross Domestic Product per capita**
- **Numbers of M.H.A.s per Region
(Critical mass/Technical expertise)**
- **Labour Cost**
- **Energy Cost**

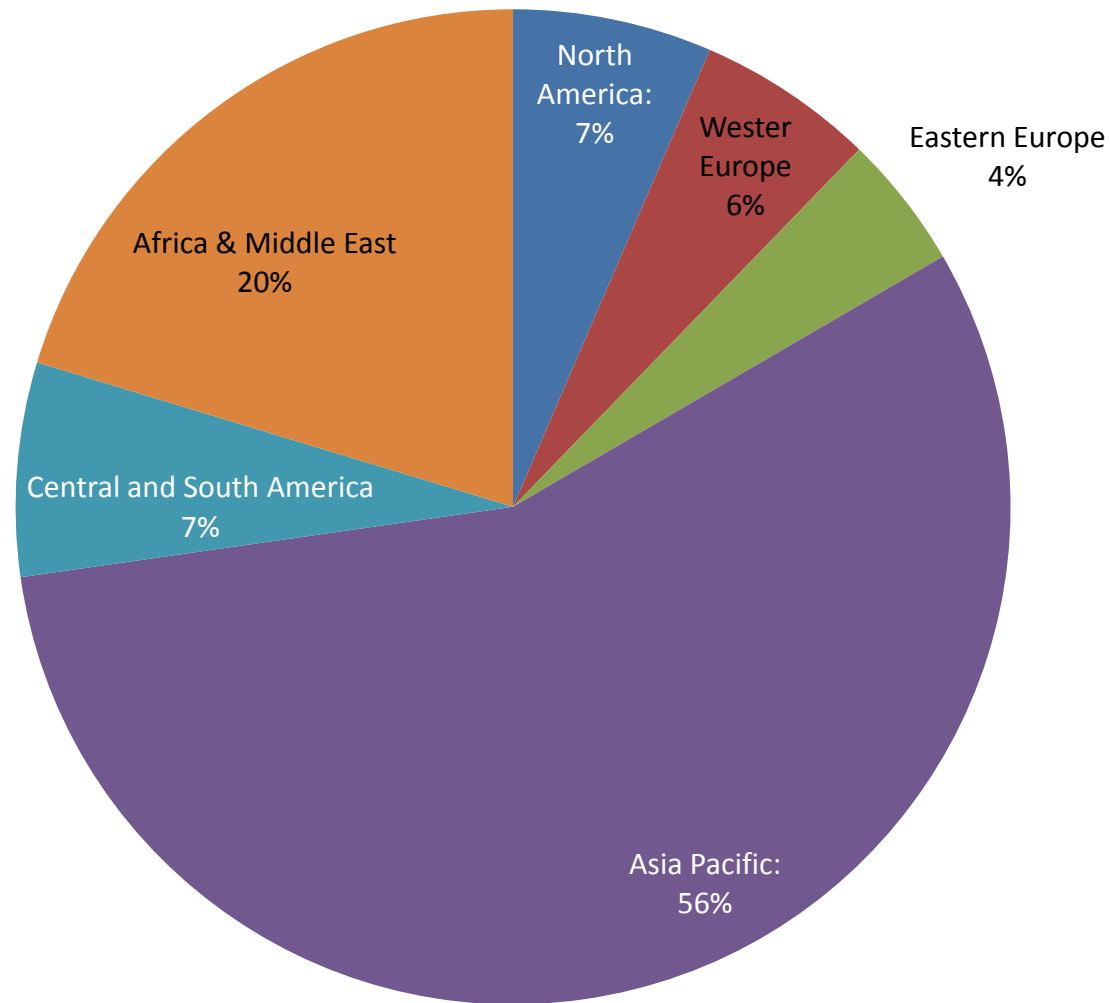


World Population by Region (Mill.Person)



Region	Year	2010	2014	2018
North America:		453	468	493
	USA	309	320	338
	Canada & Mexico	144	148	155
Wester Europe		420	417	420
Eastern Europe		323	315	313
Asia Pacific:		3848	4056	4192
	China	1320	1360	1397
	Japan	128	126	125
	Other Asia Pacific	2400	2570	2670
Central and South America		475	502	526
Africa & Middle East		1320	1468	1623
World Population		6839	7226	7567

2014's World Population by Region (Mill.Persons)

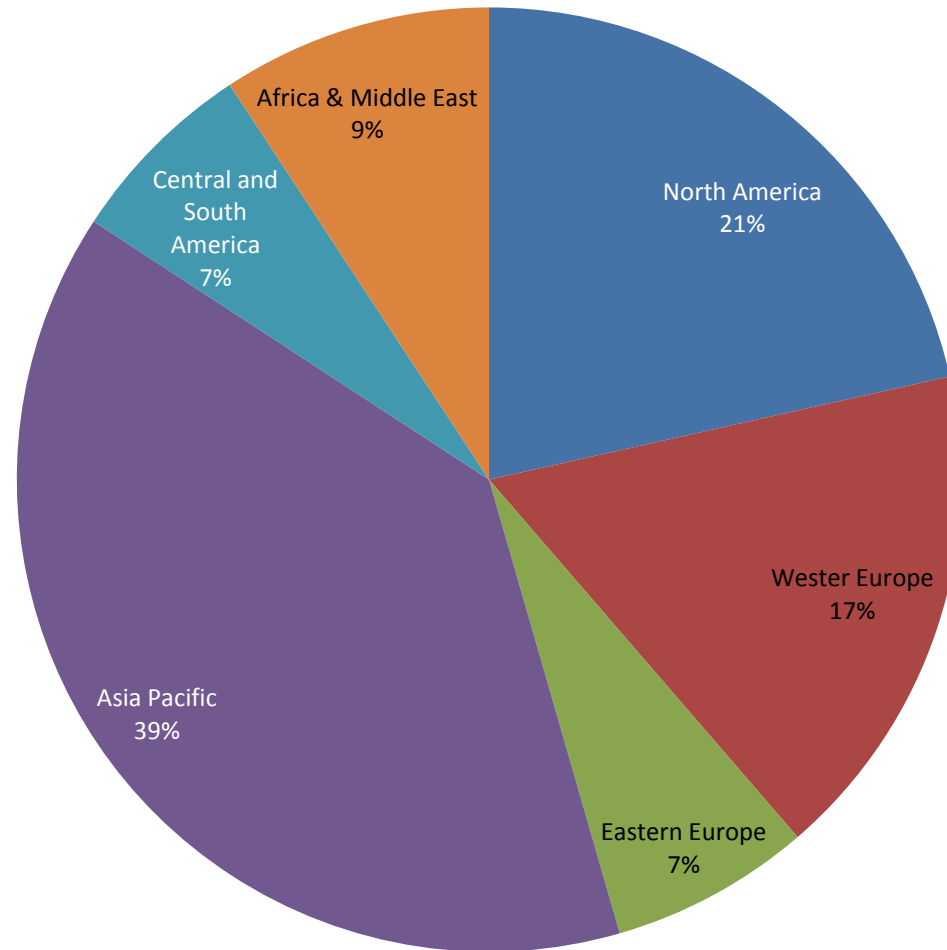


World Gross Domestic Product (GDP) by Region (Billion of 2010's \$)

Region	Year	2010	2014	2018
North America:		17.235	19.750	22.640
	USA	14.320	16.300	18.650
	Canada & Mexico	2.915	3.450	3.990
Wester Europe		14.420	15.780	17.320
Eastern Europe		5.210	6.310	7.600
Asia Pacific:		26.328	35.540	45.540
	China	10.030	15.000	20.750
	Japan	4.230	4.500	4.780
	Other Asia Pacific	12.068	16.040	20.010
Central and South America		4.964	6.010	7.150
Africa & Middle East		6.900	8.501	9.560
Total World GDP		75.057	91.891	109.810



2014's World Gross Domestic Product (GDP) by Region (Billion 2010's \$)

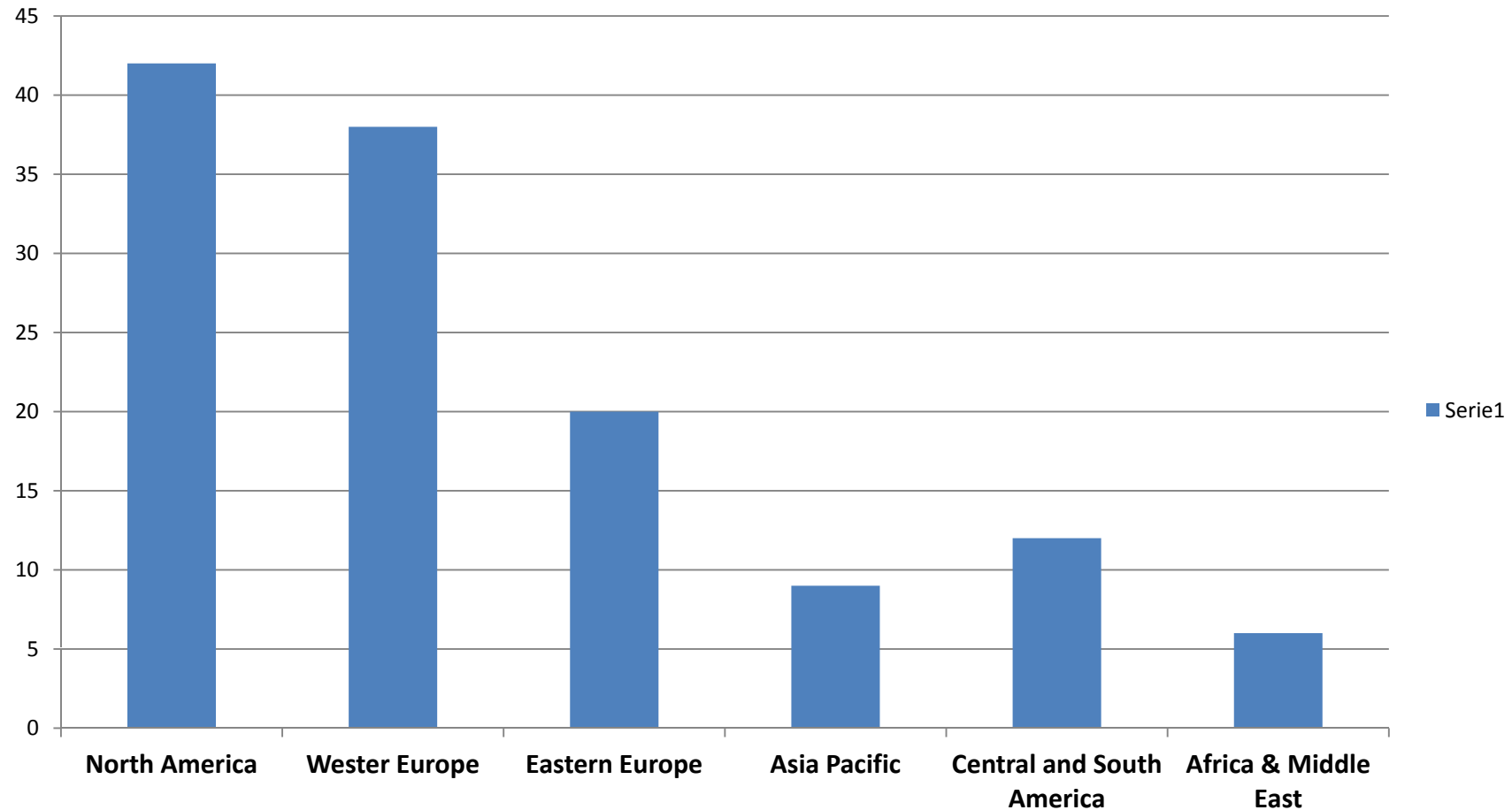


2014's World GDP per capita by Region (2010's k\$)

Region	Year	2010	2014	2018
North America:		38	42	46
	USA	46	51	55
	Canada & Mexico	20	23	26
Wester Europe		34	38	41
Eastern Europe		16	20	24
Asia Pacific:		7	9	11
	China	8	11	15
	Japan	33	36	38
	Other Asia Pacific	5	6	7
Central and South America		10	12	14
Africa & Middle East		5	6	6
Total GDP per capita (2010's K\$)		11	13	15



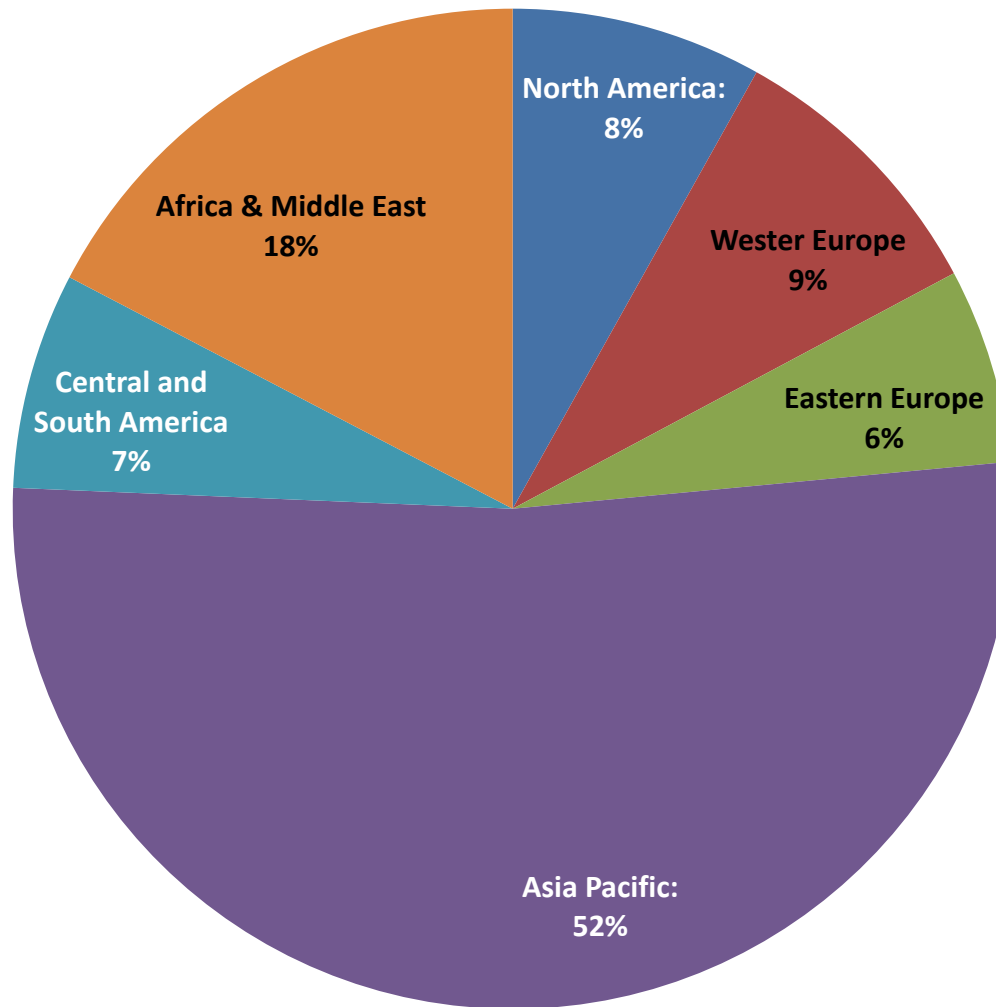
2014's World GDP per capita by Region (2010's k\$)



Number of Households by region (Millions)

Region	Year	2010	2014	2018
North America:		158	166	176
	USA	117	122	128
	Canada & Mexico	41	44	48
Wester Europe		178	186	189
Eastern Europe		127	129	130
Asia Pacific:		992	1068	1144
	China	411	430	450
	Japan	51	53	54
	Other Asia Pacific	530	585	640
Central and South America		130	143	155
Africa & Middle East		305	355	410
Total Households		1890	2047	2204

2014's Number of Households by region (%)



World Cooking Appliances Demand & Production Trend

(Ranges, Ovens, Hobs+Hoods, without microwaves) *Million units p.a.*

	2010	2014	2018
EU + TK	30	37	37
ASIA	42	51	53
North America	11	15	16
Central & South America	10	12	12
Africa / Mid east	5	7	9
TOTALE	98	122 (+24%)	127 (+4%)



2014's M.H.Appliances PRODUCTION and SALES in EUROPE

TOTAL PRODUCTION = 123.000 kp.p.a.(Hoods = 8 kp.p.a.)
SALES = 106.000 kp.p.a.(Hoods = 8 kp.p.a.)

WEST EUROPE

PROD. 2014 = 46.000 kp.p.a.
 SALES 2014=66ML kp.p.a.

MIDDLE+SOUTH EUROPE

PROD..2014 =11.000 kp.p.a.
 SALES 2014= 6.000 kp.p.a.

EAST EUROPE

PROD. 2014 = 66.000 kp.p.a.
 SALES 2014 = 34.000 kp.p.a.

WEST EUROPE

X 000 PROD. SALES

ITALY:	18.500	7.600
GERMANY:	13.000	15.600
SPAIN:	5.800	4.600
FRANCE:	1.900	12.100
U.K.:	2.700	11.600
OTHERS:	4.100	14.500

MIDDLE+SOUTH EUROPE

X 000 PROD. SALES

REP.CEKA:	900	1.400
ROMANIA:	2.000	1.500
HUNGARY	2.200	800
GREECE	600	800
SLOVAK IA	2.000	500
SERBIA	1.200	600
OTHERS:	2.100	400

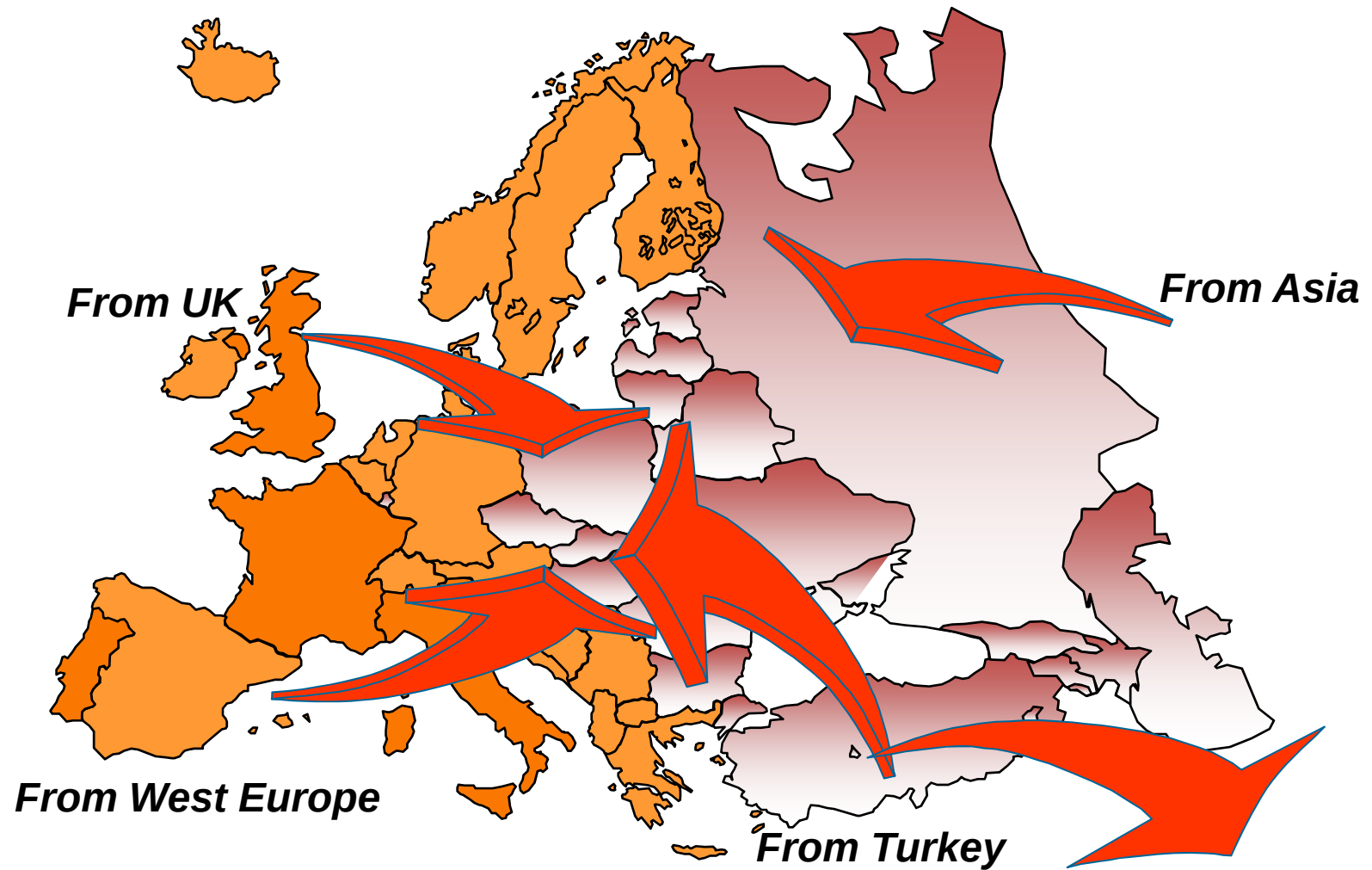
EAST EUROPE

X 000 PROD. SALES

RUSSIA:	10.000	11.150
TURKEY:	34.000	8.700
UKRAINE:	1.900	2.700
POLAND	20.000	4.800
OTHERS:	100	6.650



FLOW HOUSEHOLD APPLIANCES PRODUCTION IN EUROPE



Intra-Europe flow of Major Household Appliances production facilities (I)

From West Europe (Italia, Spain, Portugal, France, UK, Germany)

- **Indesit Italy towards Poland, Turkey e Russia (cooking, WM, DW, Cooling)**
- **Electrolux Italy towards Poland, Rumenia, Ungheria, Russia, Ukraine**
- **BSH Germany towards Poland, Turkey, Russia**
- **Candy Italy/France towards Czech Rep. , Turkey**
- **Franke – Faber Italy (Hoods) towards Turkey**
- **Fagor/Brandt Spain towards Poland**
- **Miele towards Czech Rep.**
- **Tecnowind Italy(Hoods) towards Rumenia**
- **Liebeherr towards Bulgarie**



Intra-Europe flow of Major Household Appliances production facilities (II)

From Asia Pacific

- Samsung S.Korea towards Poland, Russia
- Haier China towards Italy
- LG S.Korea towards Poland, Russia, Turkey
- Panasonic towards Slovenia (10% Gorenje)

From USA

- Whirlpool towards Italy, France, Poland, Slovakia

From Australia

- Fisher & Paykel to Italy

From Turkey

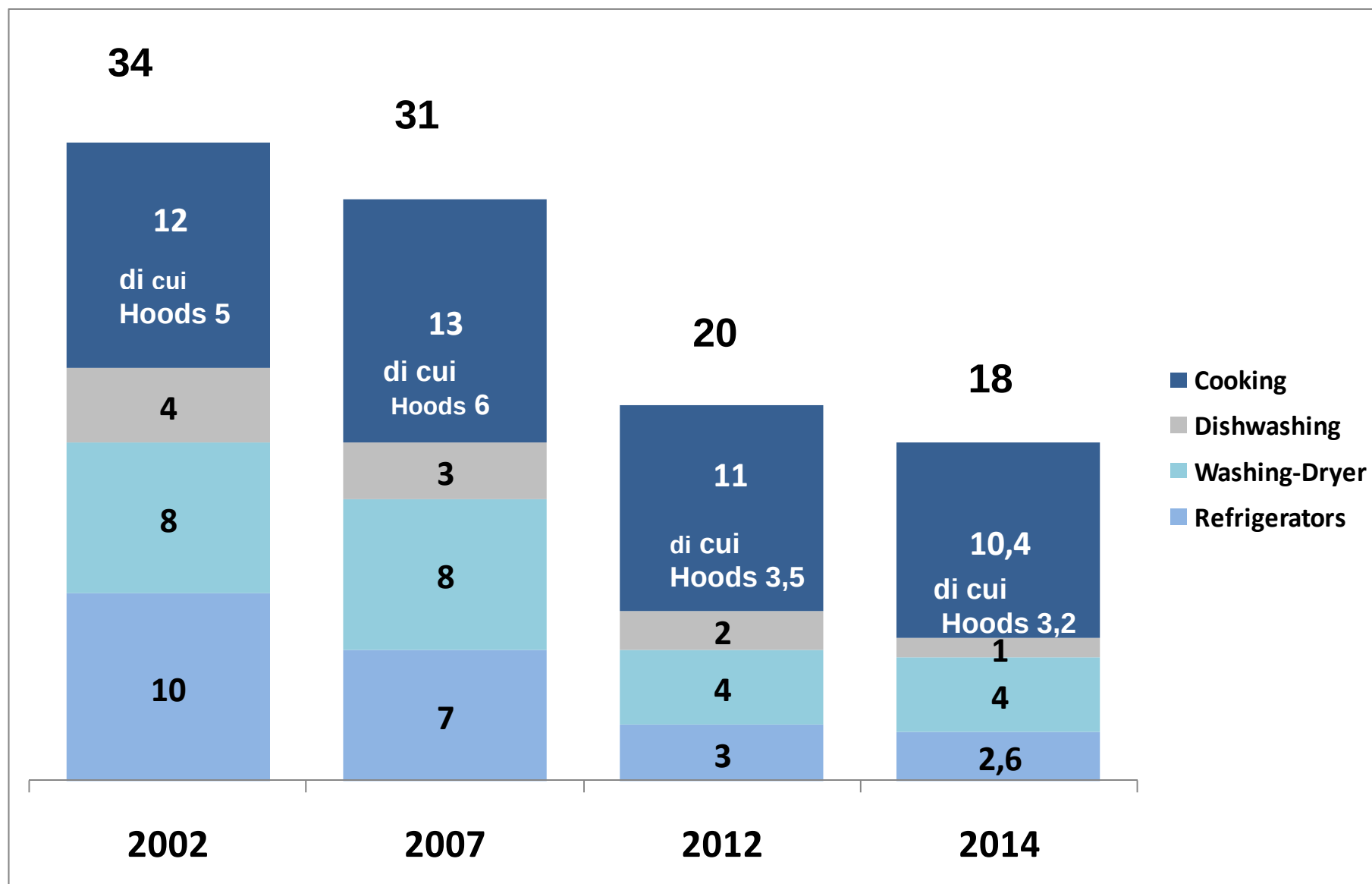
- Vestel towards Russia
- Arcelik towards Russia, Rumenia

From East to West

- - Gorenje Slovenie towards Finland, Holland



Production major appliances in Italy (Mil.p.)



PRODUCTION and SALES COOKING EUROPE 2014

TOTAL PRODUCTION = 50.000 kp.p.a. (Hoods =8.000 kp.p.a.)
SALES = 36.000 kp.p.a. (Hoods =8.000 kp.p.a.)

WEST EUROPE

PROD. 2014= 22.000 kp.p.a.
 SALES 2014= 21.000 kp.p.a.

MIDDLE+SOUTH EUROPE

PROD. 2014 = 4.000 kp.p.a.
 SALES 2014=3.000 kp.p.a.

EAST EUROPE

PROD. 2014 = 24.000 kp.p.a.
 SALES 2014 = 12.000 kp.p.a.

WEST EUROPE X 000 PROD. SALES

ITALY:	10.700	2.500
GERMANY:	5.400	5.400
SPAIN :	3.500	1.700
FRANCE:	1.200	4.300
U.K.:	1.100	3.900
OTHER	100	3.200

MIDDLE+SOUTH EUROPE X 000 PROD. SALES

CHEZC.REP. :	400	500
RUMENIA:	800	1.000
SLOVAKIA	500	200
OTHER	2.300	1.300

EAST EUROPE X 000 PROD. SALES

RUSSIA:	1.700	5.900
TURKEY :	13.500	2.200
UKRAINE:	950	1.300
POLAND	6.100	2.000
BELARUS	1.000	200
OTHER	1.750	400

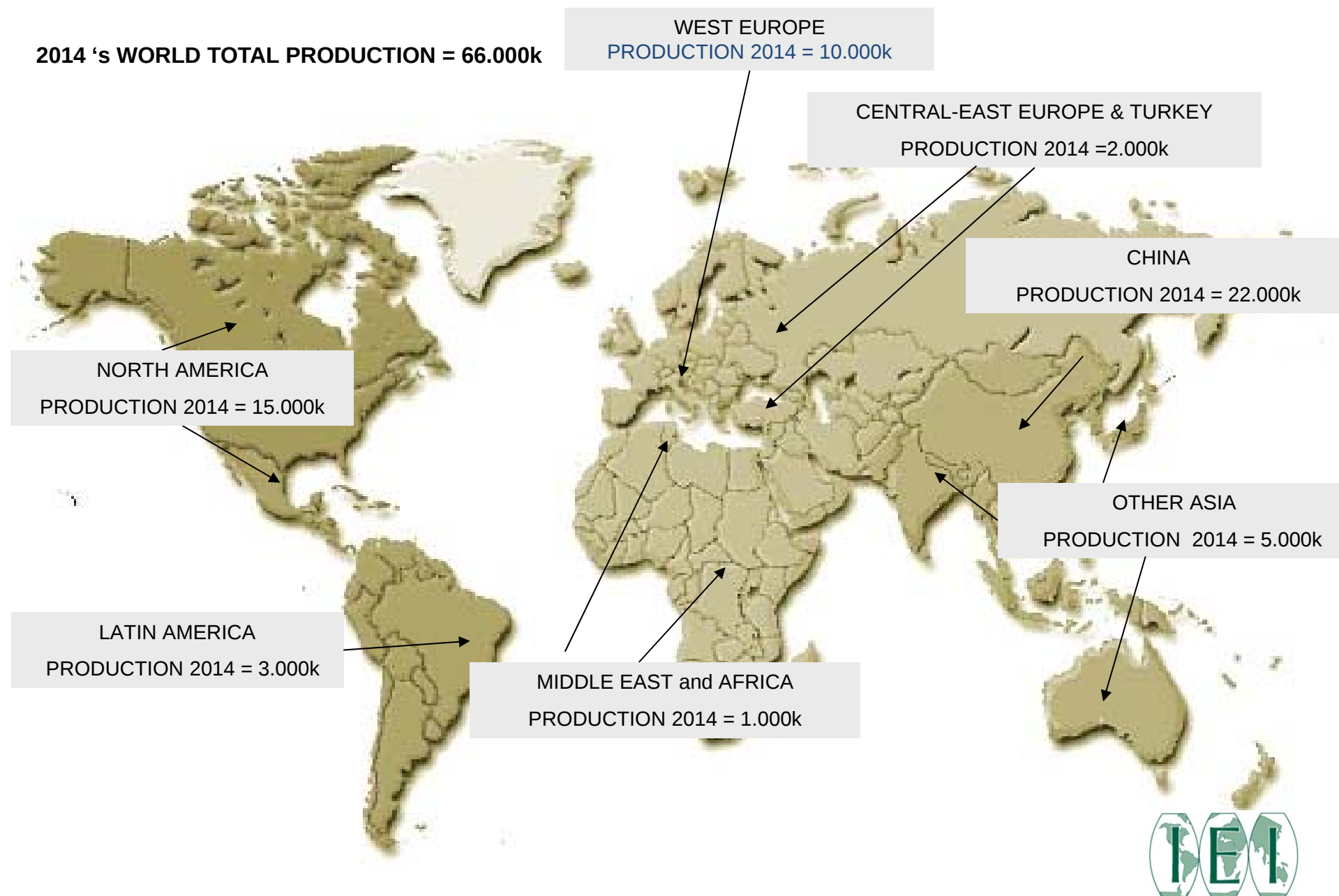


Italian Enamelled Hobs Sales Trend

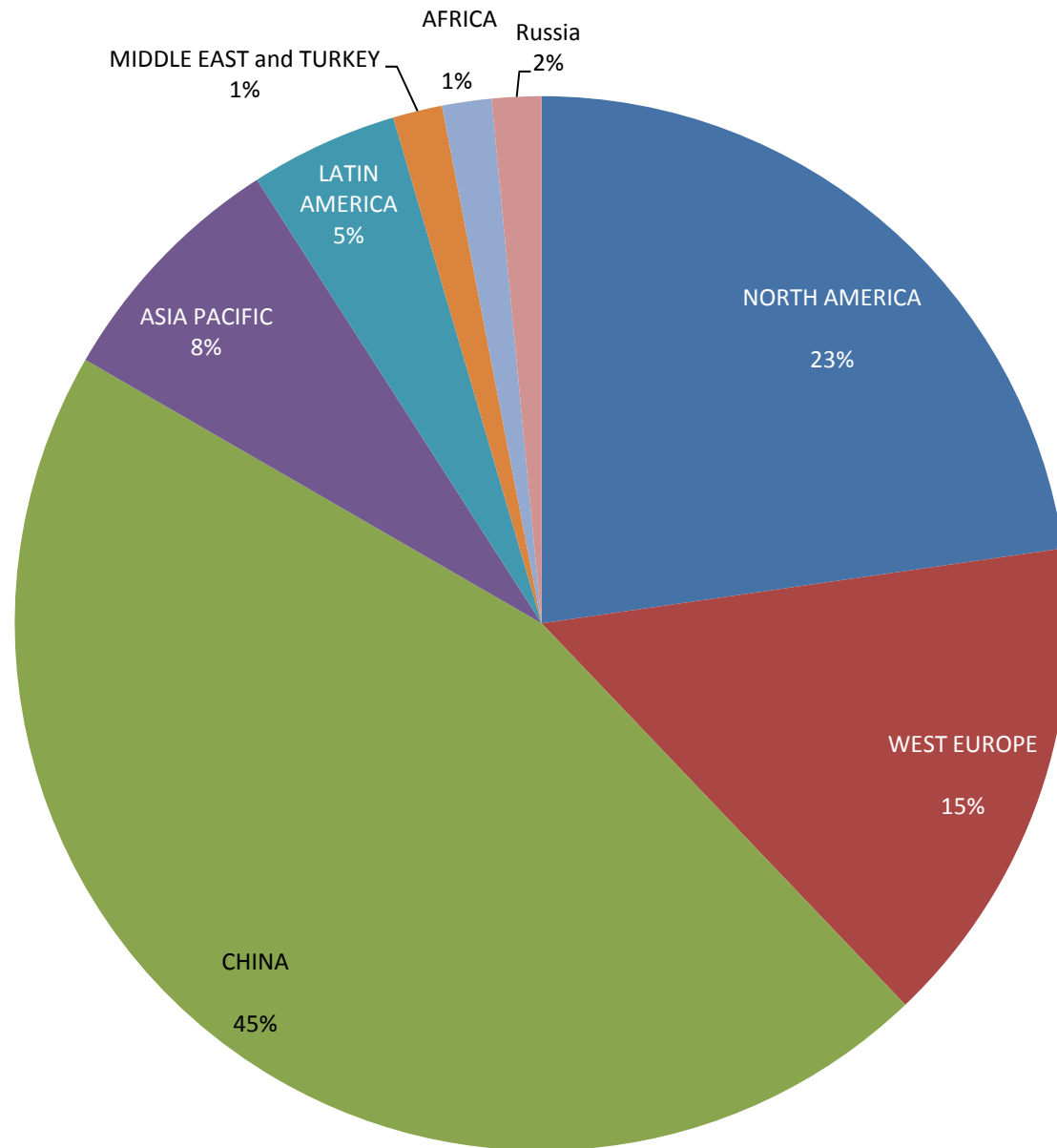
	2007	2013
Avena	200.000	112.000
Antracite	32.000	28.000
White	25.000	10.000
Old White	20.000	8.000
Black	4.000	4.100
Puntinato bianco	6.000	3.000
Old stone	15.000	3.000
Terre de France	14.000	1.000
Old grey	4.000	0
Pietra Antica	5.000	0
TOTALE	325.000	169.100

2014 's World HOT WATER TANKS Production Volumes kp.p.a.

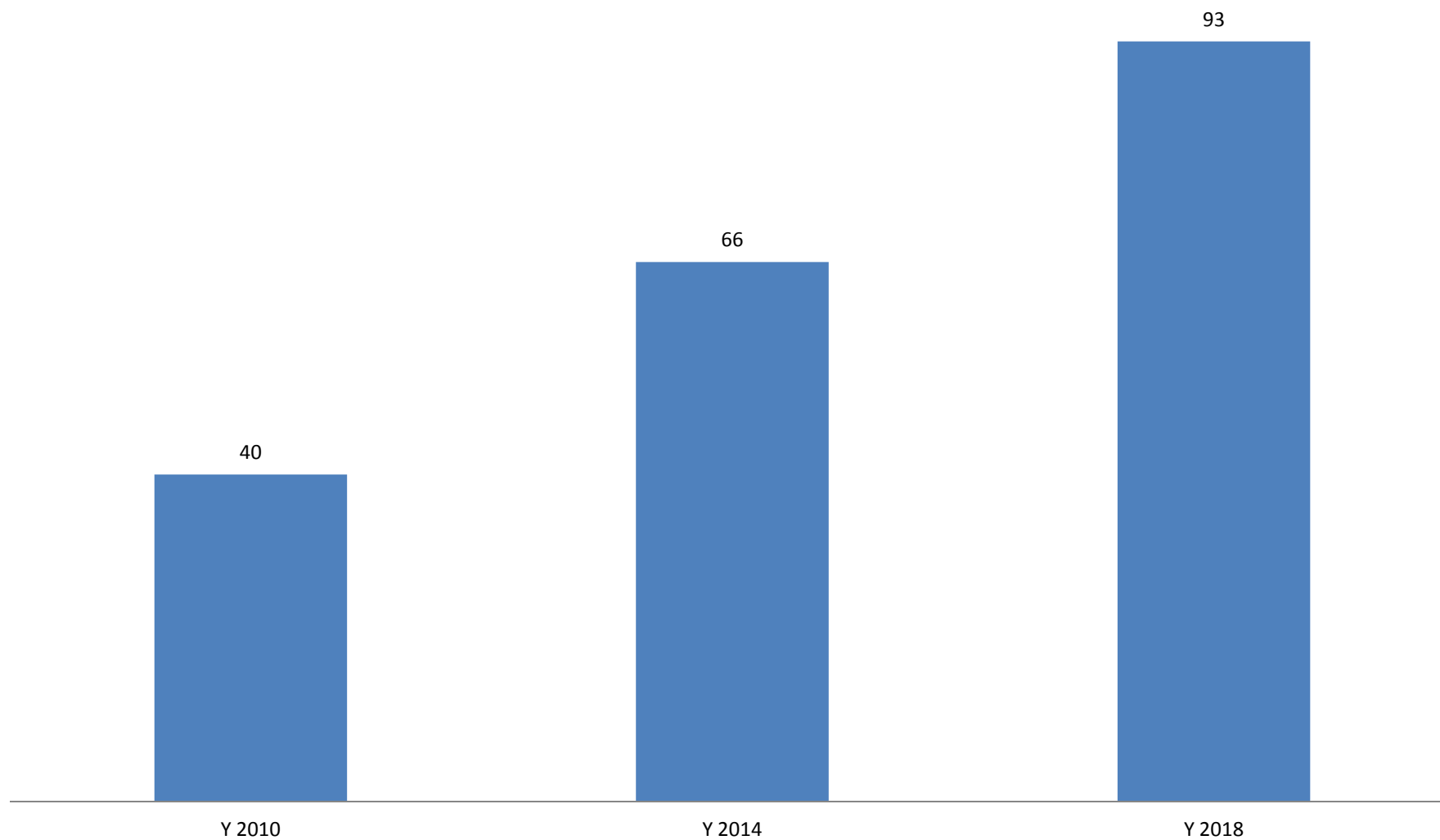
2014 's WORLD TOTAL PRODUCTION = 66.000k



2014 's World HOT WATER TANKS Production (%)



World Hot Water Tank Production Trend (Mill.p.p.a.)

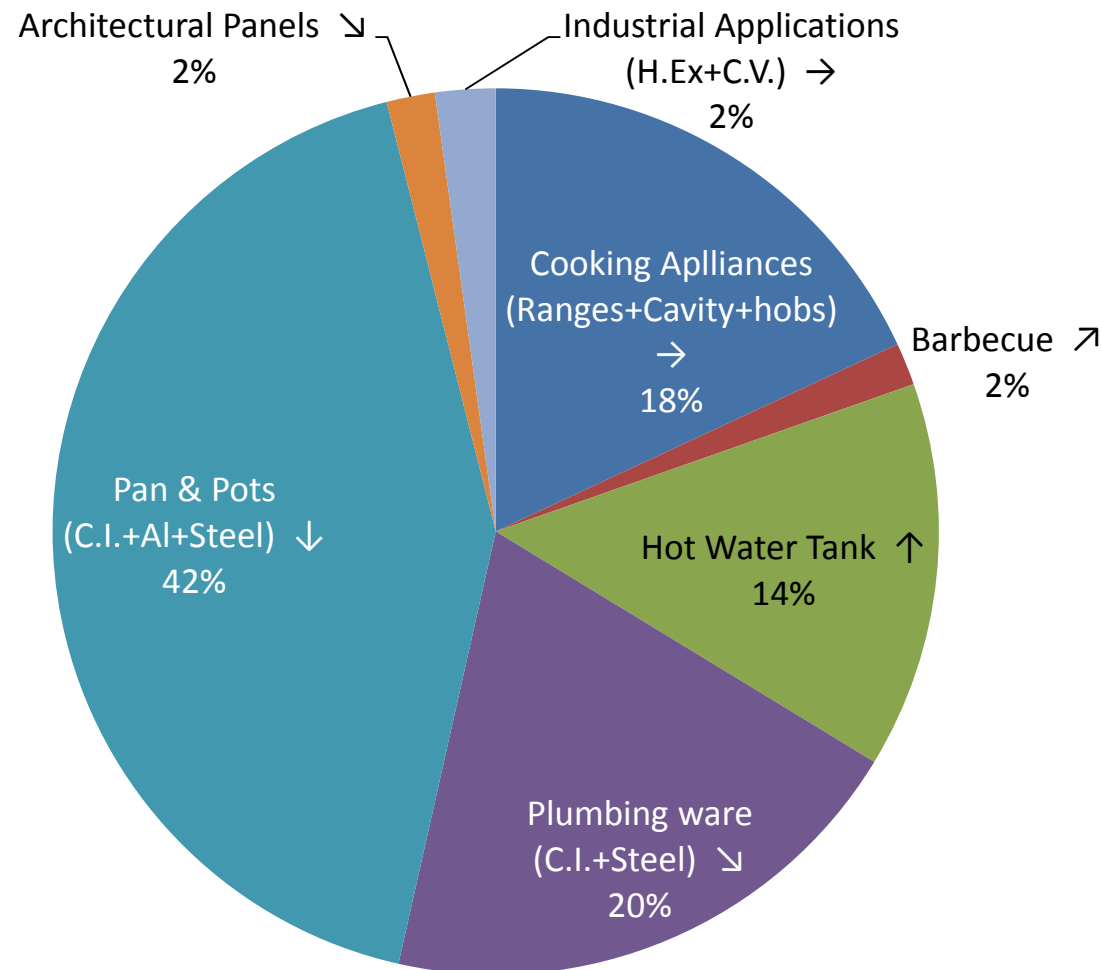




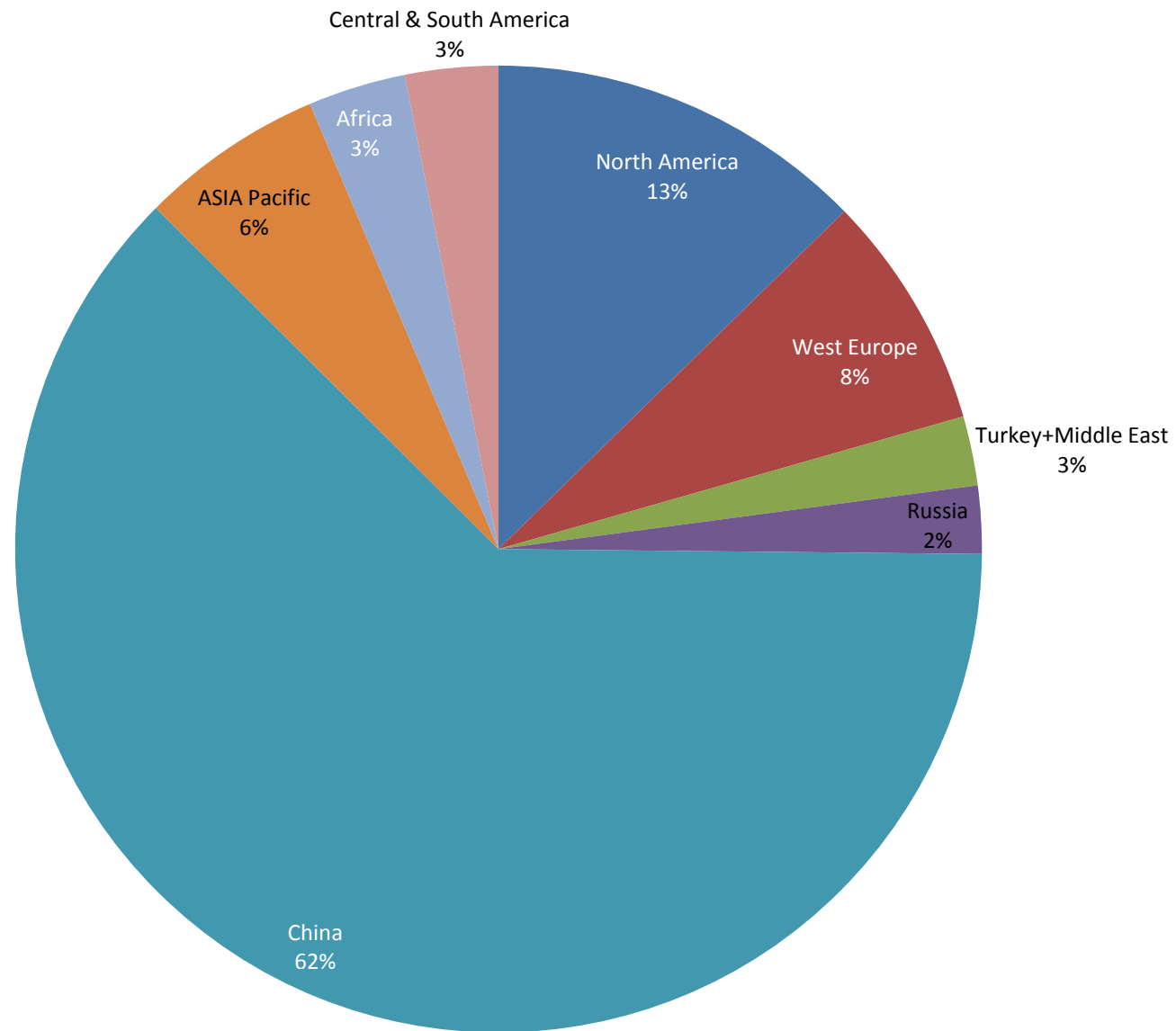
Porcelain (Vitreous) Enamel Market (2014)

Region	USA Mexico Canada	CEE	Turkey Middle east	Russia	China	Asia Pacific India Australia	Africa	Central & South America	Total p.p.a.	P.E k.Tons p.a.
P.E. market segments										
Cooking Appliances (Ranges+Cavity+hobs) Millions p.a.	→ 15	↘ 17	↗ 7	→ 3	→ 20	→ 17	↗ 12	↗ 12	→ 103	82
Barbecue Millions p.a.	↗ 5	→ 1	→ 1	↗ 3	↗ 1	↗ 1	→ 1	↗ 13	7	
Hot Water Tank Millions p.a.	→ 15	↗ 10	→ 1	↗ 1	↑ 30	↗ 5	↘ 1	↗ 3	↑ 66	73
Plumbing ware (C.I.+Steel) Millions p.a.	↘ 4	↓ 1,5	↓ 0,5	↘ 1	↘ 10	↘ 1	↘ 1	↘ 18	90	
Pan & Pots (C.I.+Al+Steel) P.E k.Tons p.a.	→ 3	↘ 2	→ 1	→ 1	↓ 180	↗ 2	→ 3	↗ 1	↓ 193	
Architectural Panels Millions sqm.p.a.	→ 3	↘ 1	↘ 1	↘ 1	→ 3	↘ 1	↘ 1	→ 9	8	
Industrial Applications (H.Ex+C.V.) P.E k.Tons p.a.	→ 2	→ 1	→ 1	→ 1	→ 5	→ 1	→ 1	→ 10		
P.E k.Tons p.a.	59	37	11	11	288	29	15	14	↘ 463	

2014's Porcelain (Vitreous) Enamel Market (%)



2014's Porcelain (Vitreous) Enamel Consumption by Regions



Conclusion

- World Major Household Appliances Market including hot water heaters very vital and global
- World Major Household Appliances facilities moving towards the Regions with lower labour and energy cost structures
- High populated developing countries with high growth rate, highly attracting the W.M.H.A.s Business
- Porcelain (vitreous) Enamel consumption very much linked to the trends of Cooking appliances and Hot Water tank production volumes

