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Study on fake smartphones

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https://euipo.europa.eu/ohimportal/en/web/observatory/quantification-of-ipr-infringement

Impact of counterfeiting and piracy: Sectorial studies

- 1st study - Cosmetics and personal care sector
- 2nd study - Clothing, footwear and accessories sector
- 3rd study - Sports goods sector
- 4th study - Toys and games sector
- 5th study - Jewellery and watches sector
- 6th study - Handbags and luggage sector
- 7th study - Recorded music industry
- 8th study - Spirits and wine sector
- 9th study - Pharmaceutical sector
- 10th study - Pesticides sector
- 11th study - Smartphone sector
- 12th study - Tyres and batteries sectors

Methodology

The very nature of the phenomenon of counterfeiting and piracy makes it extremely challenging to reliably quantify, as obtaining data for a secretive activity is by nature difficult. In the past, many attempts to quantify the scale of counterfeiting and its consequences for society as a whole have suffered from the absence of a consensual and consistent methodology for collecting and analysing data across various sectors. To help overcome these challenges while taking fully into account methodological constraints, the Observatory has developed a specific approach to be applied to all industry sectors.

Variations between forecast sales and actual sales by sector are analysed for each European Union country. The statistical techniques used include economic and social factors which allow the researcher to estimate the amount of sales lost by IPR holders due to counterfeiting, as well as loss of employment in the affected sector.

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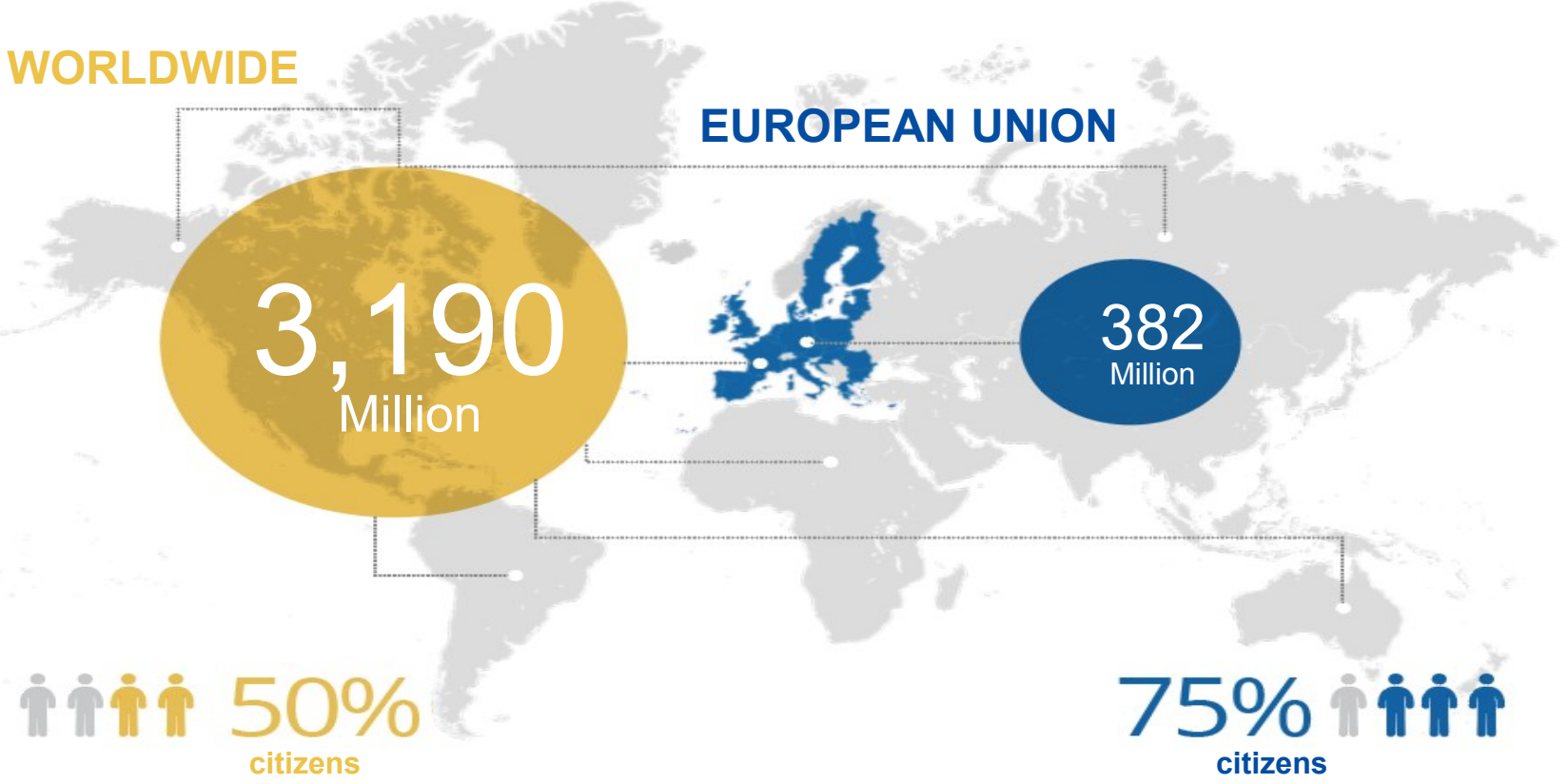
Smartphones market: connections in 2015



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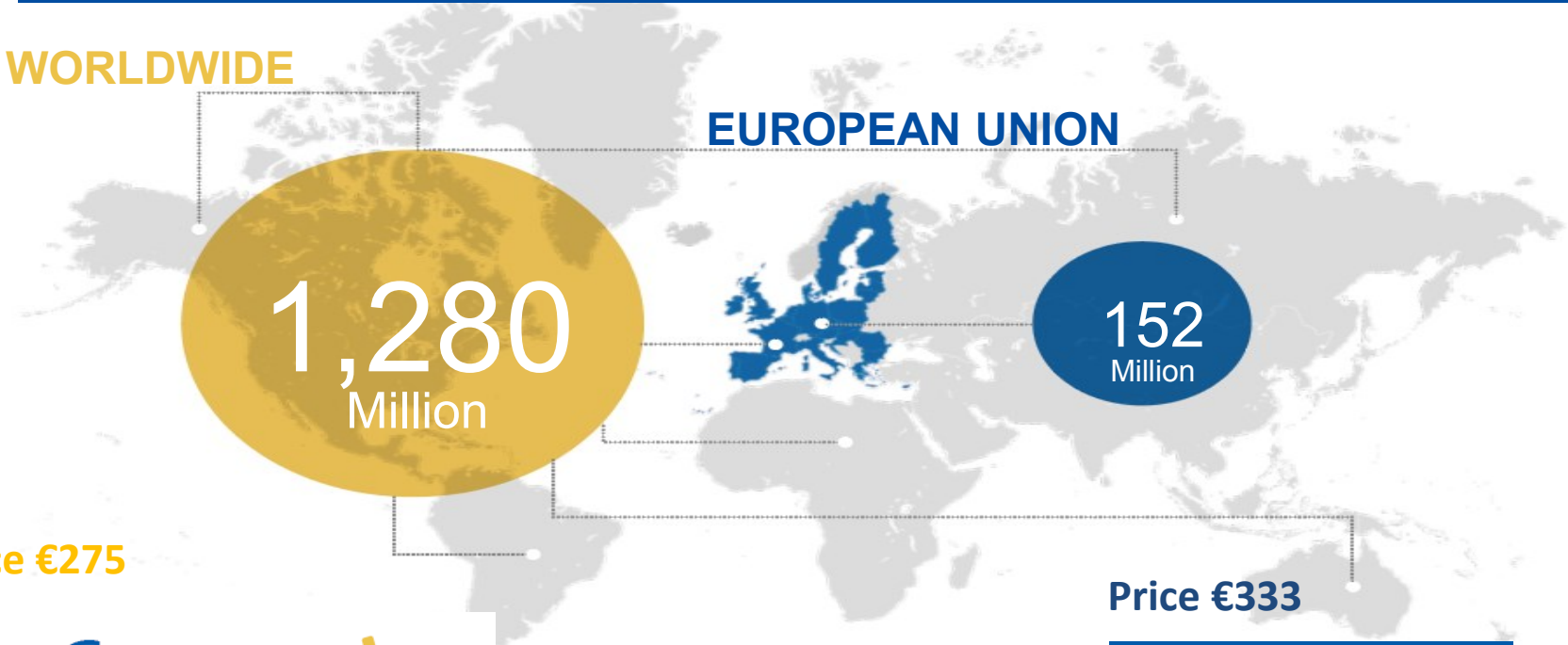
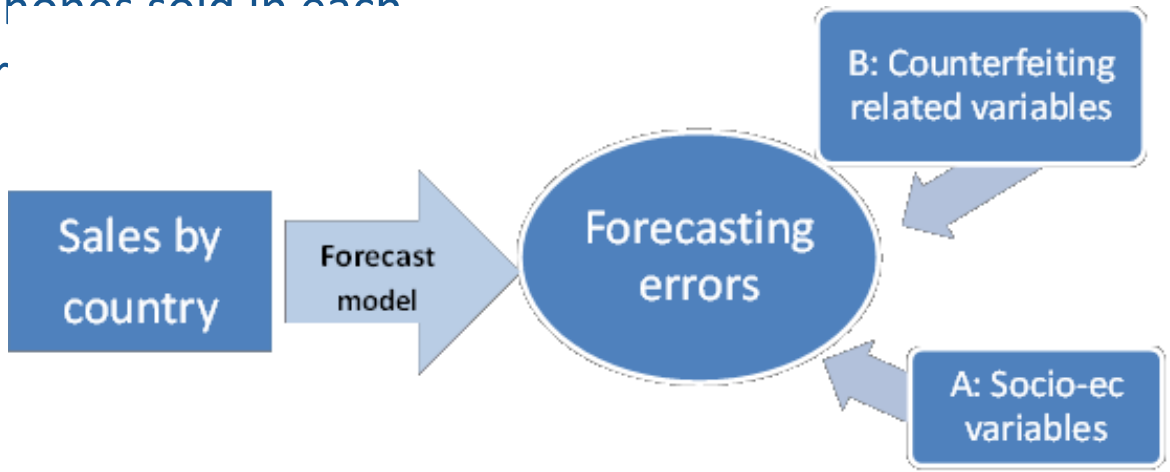
Smartphones sold in 2015



Two stages model

1. Forecast model estimates the number of smarphones sold in each countr

2. Forecasting errors are analysed using as explanatory economic and counterfeiting-related variables



1st-stage: real sales (GfK)

2015	Total sales (million EUR)	Total sales (million units)	Average price
European Union*	**50,801**	**152**	**333**
Commonwealth of Independent States (CIS)	5,519	36	154
Rest of Europe	9,361	21	439
Asia and Pacific	60,697	221	275
Assoc. Southeast Asian Nations (ASEAN)	15,789	86	183
Arab States	11,358	48	238
Africa	4,814	31	156
Latin America	24,055	108	222
North America	**64,975**	**191**	**340**
China	**104,570**	**385**	**272**
TOTAL	**351,939**	**1,280**	**275**
* EU28 except Malta and Bulgaria			

1st-stage: expected sales

α_i = 0; 0.10; 0.25; 0.50 (replacement rate)

$$\hat{S}_{it} = (C_{it} - C_{it-1}) + \alpha_i * C_{it-1}$$

Expected sales = new connections + replacement of existing smartphones

C_{it} the number of connections in country i and year t (i.e. 2015)
C_{it-1} the number of connections in country i and year t-1 (i.e. 2014)

α_i the proportion of the stock of smartphones replaced each year.

2nd-stage: econometric model

Variable	Coefficient	Standard Error	t Statistic	95% Confidence interval	
				Lower	Upper
Constant	-0.2451	0.0188	-13.03 ***	-0.2826	-0.2076
Cluster0	0.3505	0.0475	7.39 ***	0.2559	0.4450
Cluster10	-0.0840	0.0147	-5.72 ***	-0.1132	-0.0547
Cluster50	-0.0155	0.0335	-0.46	-0.0822	0.0512
Prices GNI	0.0728	0.0122	5.95 ***	0.0484	0.0972
GDP pc PPP	0.0017	0.0004	4.14 ***	0.0009	0.0026
WB Index: Government Effectiveness	0.0753	0.0117	6.42 ***	0.0519	0.0986

Government Effectiveness Indicator : World Bank

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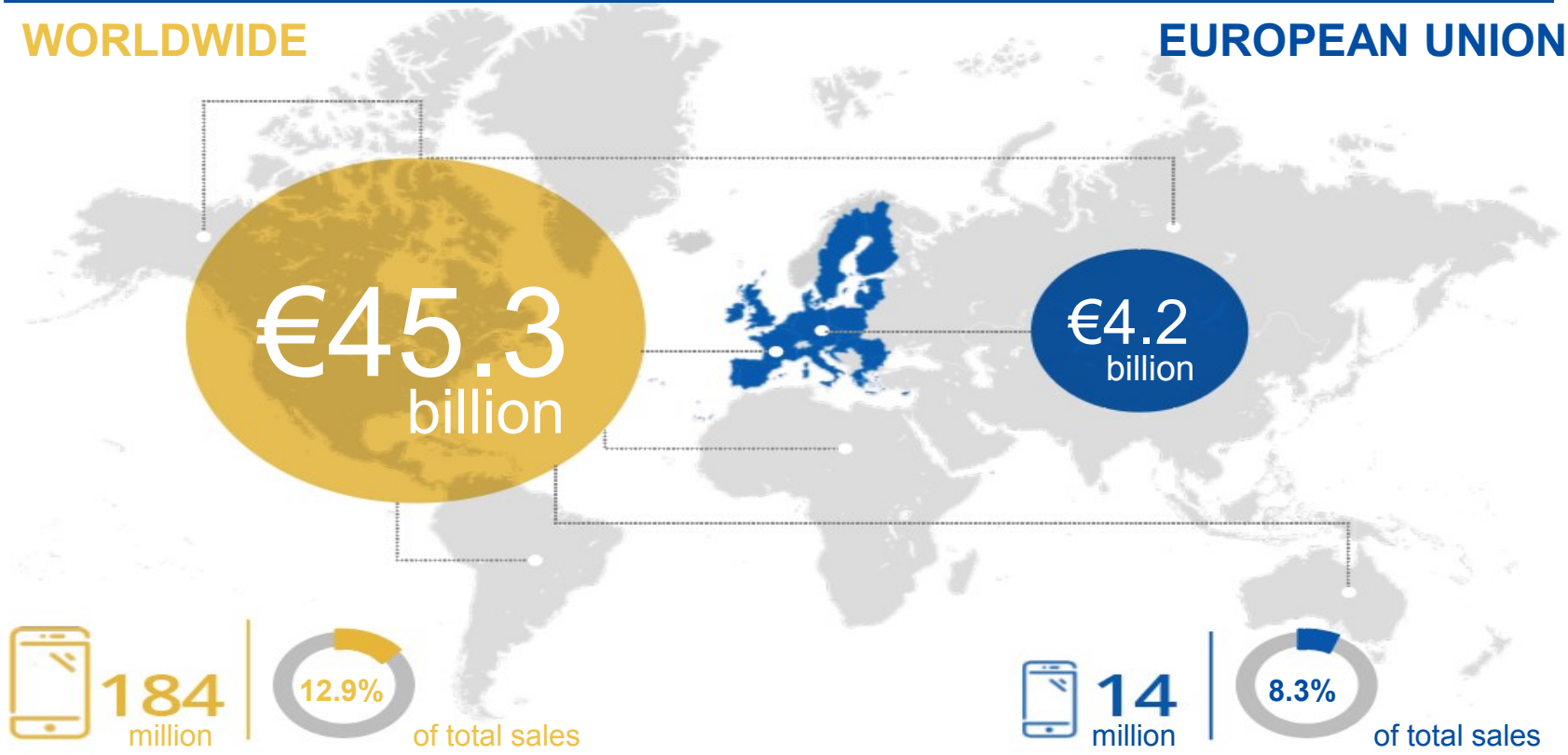
Lost sales due to fake smartphones: World and EU



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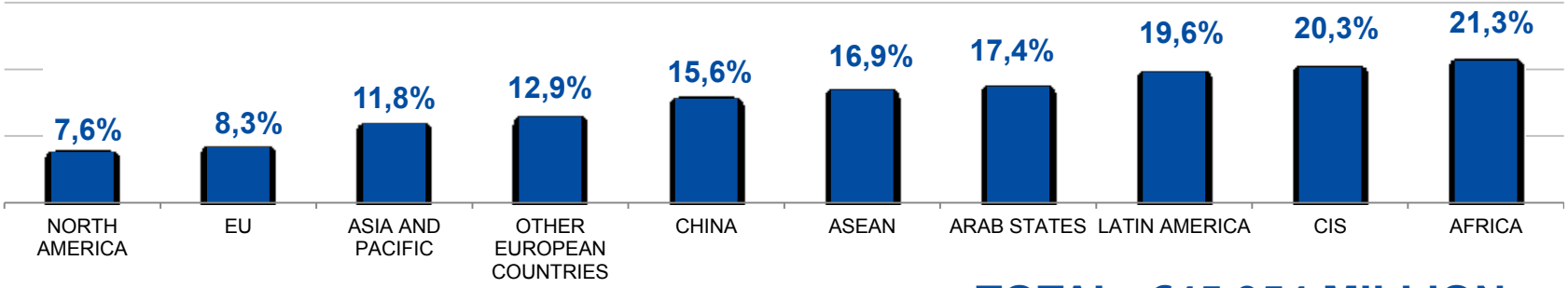
Lost sales by region in 2015



TOTAL: €45,354 MILLION

Arab States
€ 1,976 million

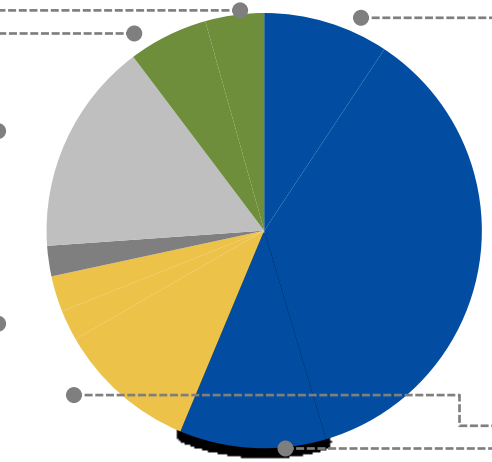
ASEAN
€ 2,675 million

Asia and Pacific
€ 7,167 million

Other European Countries
€ 1,123 million

CIS
€ 1,207 million

Africa
€ 1,025 million



EU
€ 4,212 million

China
€ 16,336 million

North America
€ 4,927 million

Latin America
€ 4,707 million

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Thank you

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