'The Electronics Component Market
Is it really a Global Market?'

Presentation to

9 October 2012

About Aubrey

- 25 years with Philips Components and Semiconductors
- In 2000 started in consultancy and am still active in working with manufacturers and distributors in the Electronic Components
- Working with companies on Marketing and Management Development
- In 2003 joined Europartners and am now engaged in managing the partners and projects.
- In 2004 started working with UK Trade Association on market analysis
- I am not an economist!

About Europartners

- Europartners is a team of independent consultants working across Europe and the world.
- Specialise in the Electronic Component Industry and the Distribution of Electronic Components
- Undertake specific projects and assignments for companies
- Expanding into providing services for Electronic Components Companies.

Some of our Products

- Europartners Distribution Forum
- Europartners Annual Distribution Report
- Electronics Industry Digest
- Leadership Development and Management Coaching

'The Electronic Components Market
Is it really a Global Market?'

- I am hoping you are not expecting a Yes or No answer from me
- I am hoping to promote some discussion!

What is a Market

- A place where buyers and sellers come together to trade

Can there be a Global Market?

- Markets are about ‘coming together to trade’
  - Physical Travel
  - Communications & Logistics
    - Mail
    - Telephone/Fax
    - Email/Internet
- The logistics and the communications no longer need to be connected.
- Markets do not need to have physical products
  - Financial Services
  - Intellectual Property

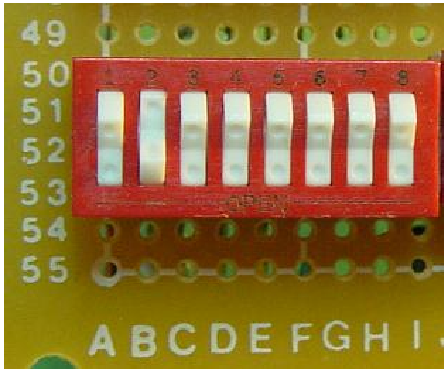
Is there a Global Market

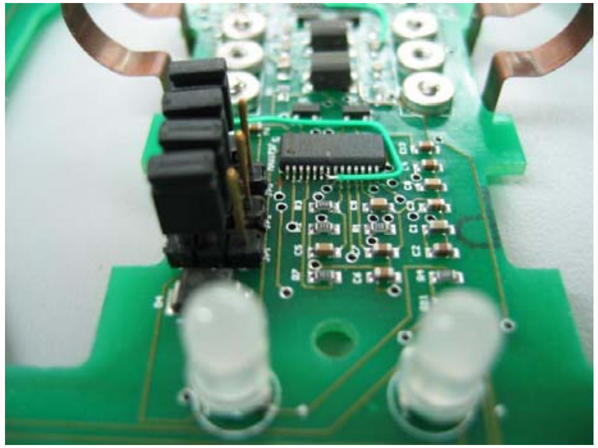
- Essentially – Yes
- Some remaining limitations to trade
  - Political
    - North Korea
    - Tibet
  - Physical
    - Some parts of Russia, China (Large Distances)
    - Some South Sea Islands
    - Some parts of South America/Africa

The Electronic Components Market

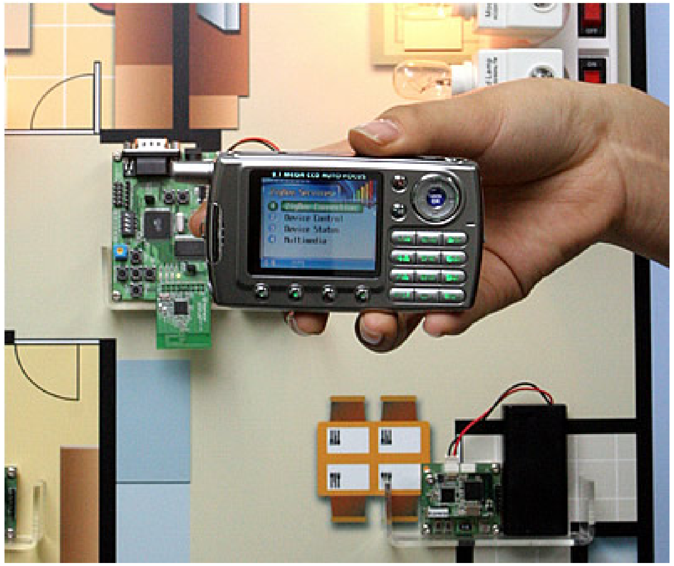
- What is an Electronic Component?
  - Not the same as a Component of Electronics
    - ‘Electronics’ is a combination of Electronic Components, Physical form (Plastic, Metal etc) and Software.
  - My definition
    - A manufactured device which emits, transmits or reacts to, a variable electronic signal which is used in conjunction with other devices to perform a function

Electronic or Electrical?



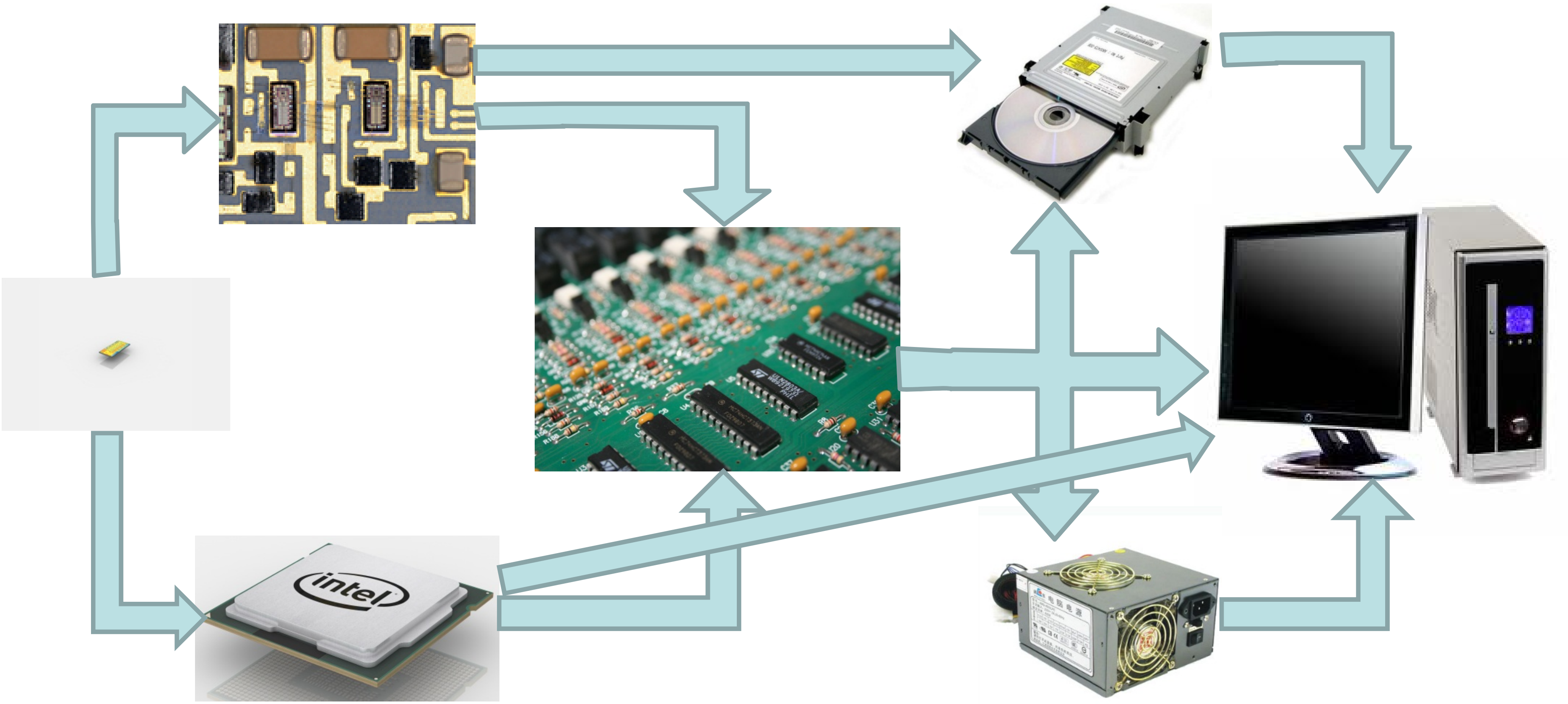


The Problem



How to decide?
Application – Function – Complexity – Technology - ???
All leave us with ‘grey’ uncertain areas.

So what is a component?

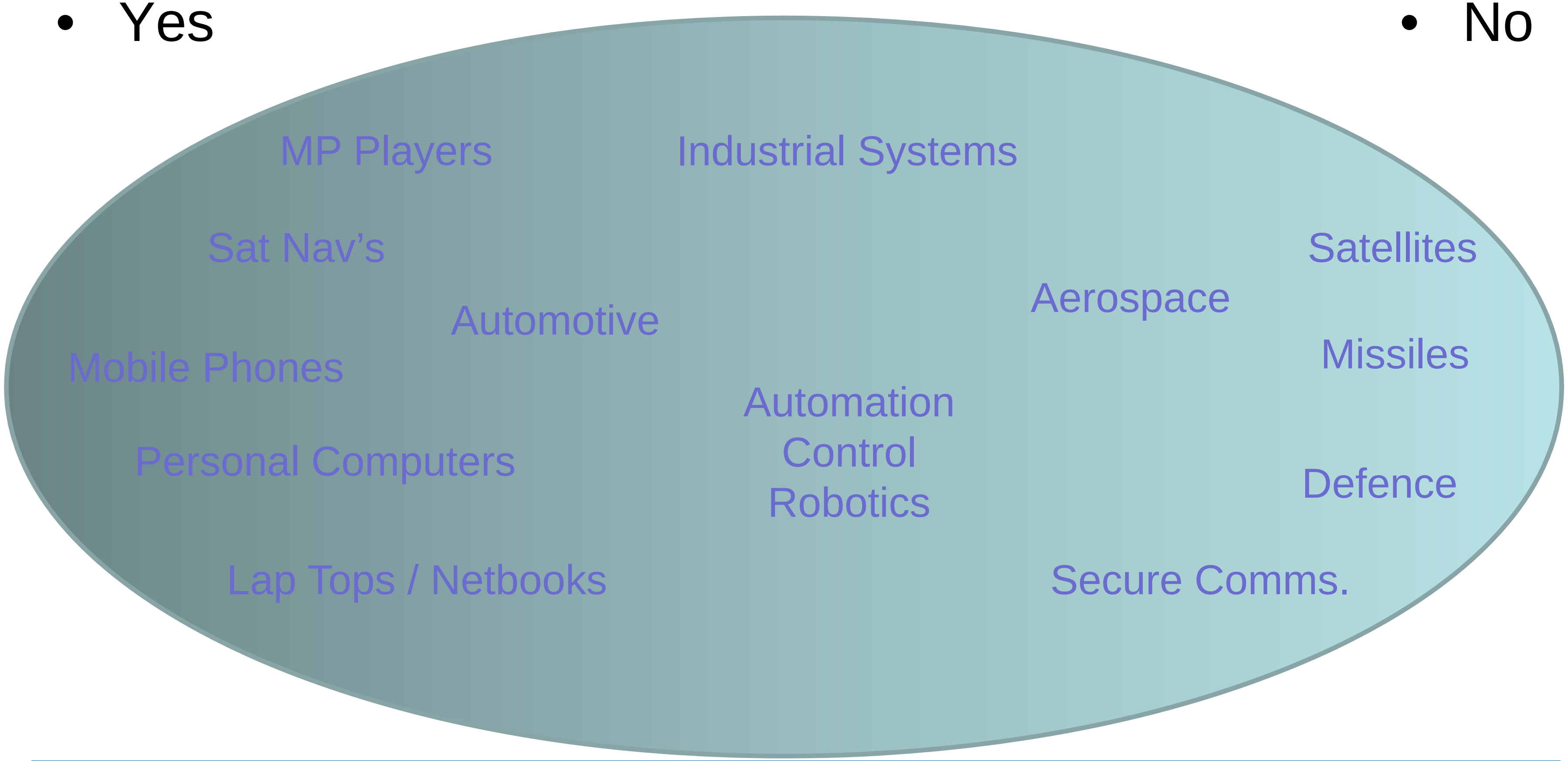


Is there a Global Electronic Components Market?

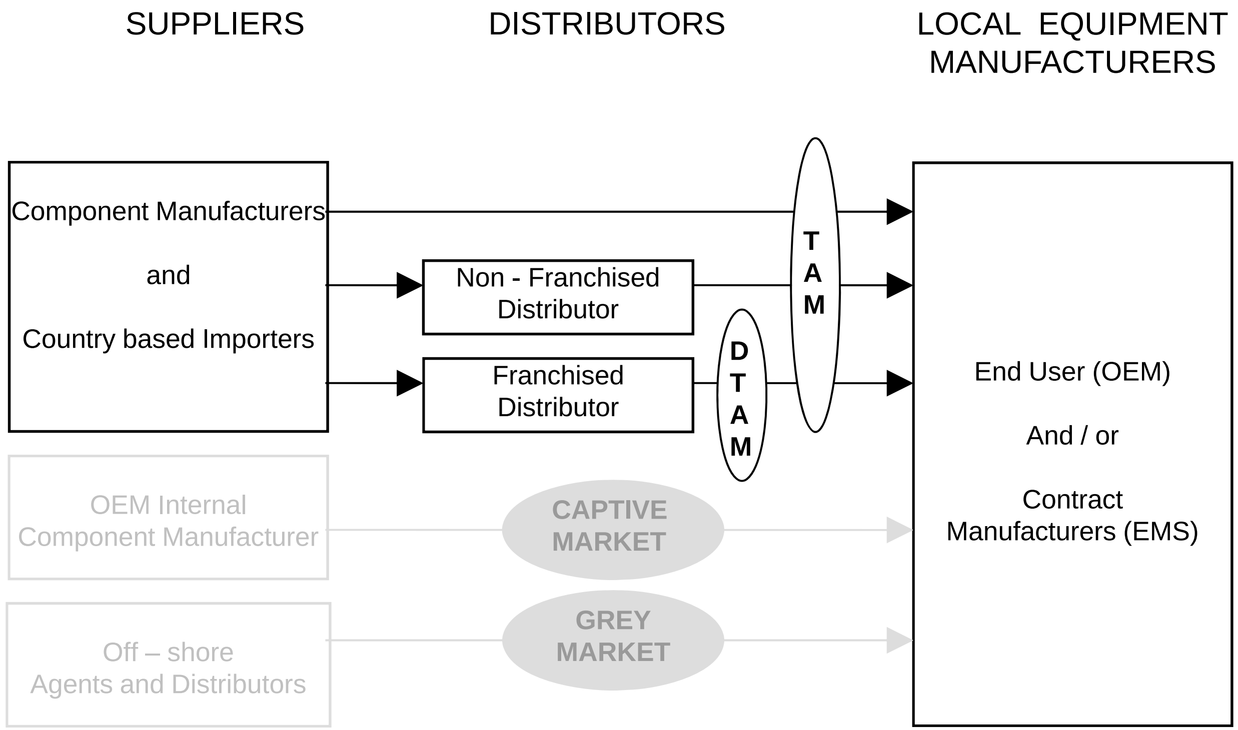
- Yes
  - Commodity Electronic Components are widely available around the world.
  - Country Boundaries are easily trans versed.
  - Transparency of pricing is driving towards a 'global price'
  - Standardisation of end market applications leads to global products
  - Most major companies are looking to build maximum global market share to get economy of scale.
  - Time to market demands use of 'common building blocks'.
- No
  - High Technology Specialist systems are driving the infrastructure of our modern economies and leads to competitive advantage.
  - Controlling the IP means that more and more companies want to work with custom or 'bespoke' components and to control their availability. (Military, Aerospace etc)
  - Standardisation of systems does not mean standard components.
  - Counterfeiting is becoming a key issue and companies need to control their sources.

Is there a Global Electronic Components Market?

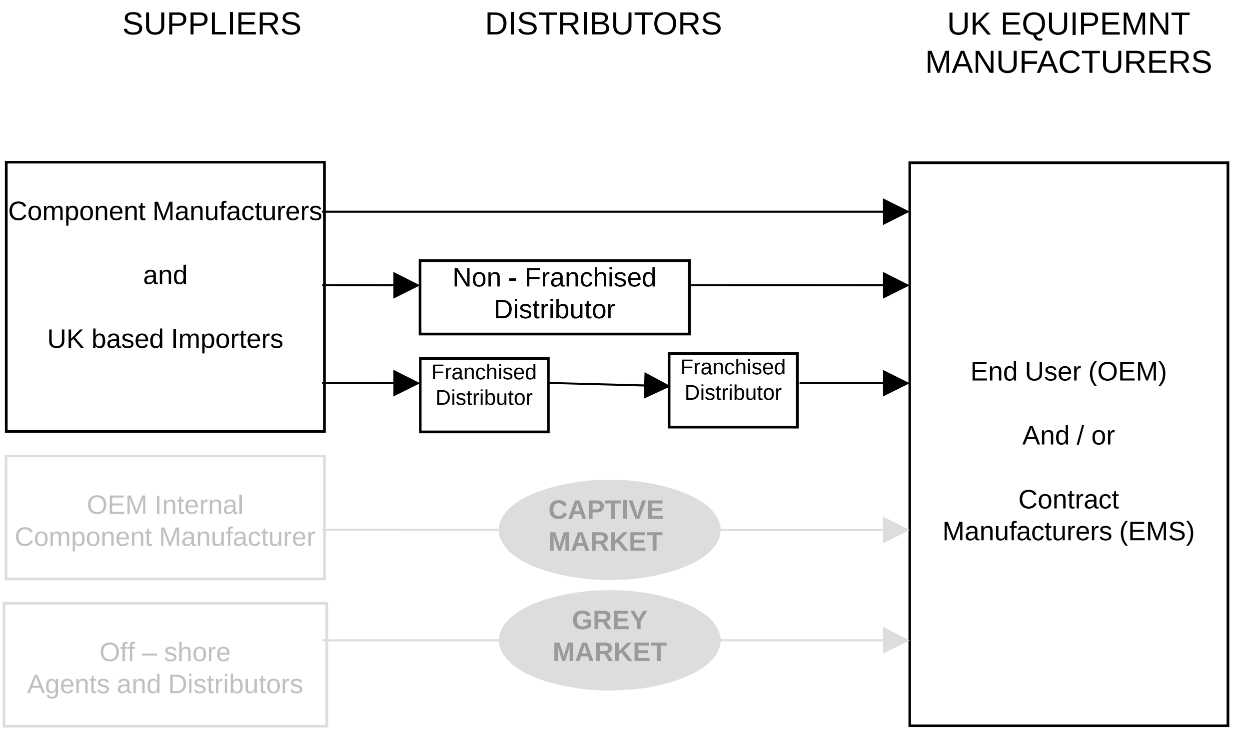
- Yes
- No



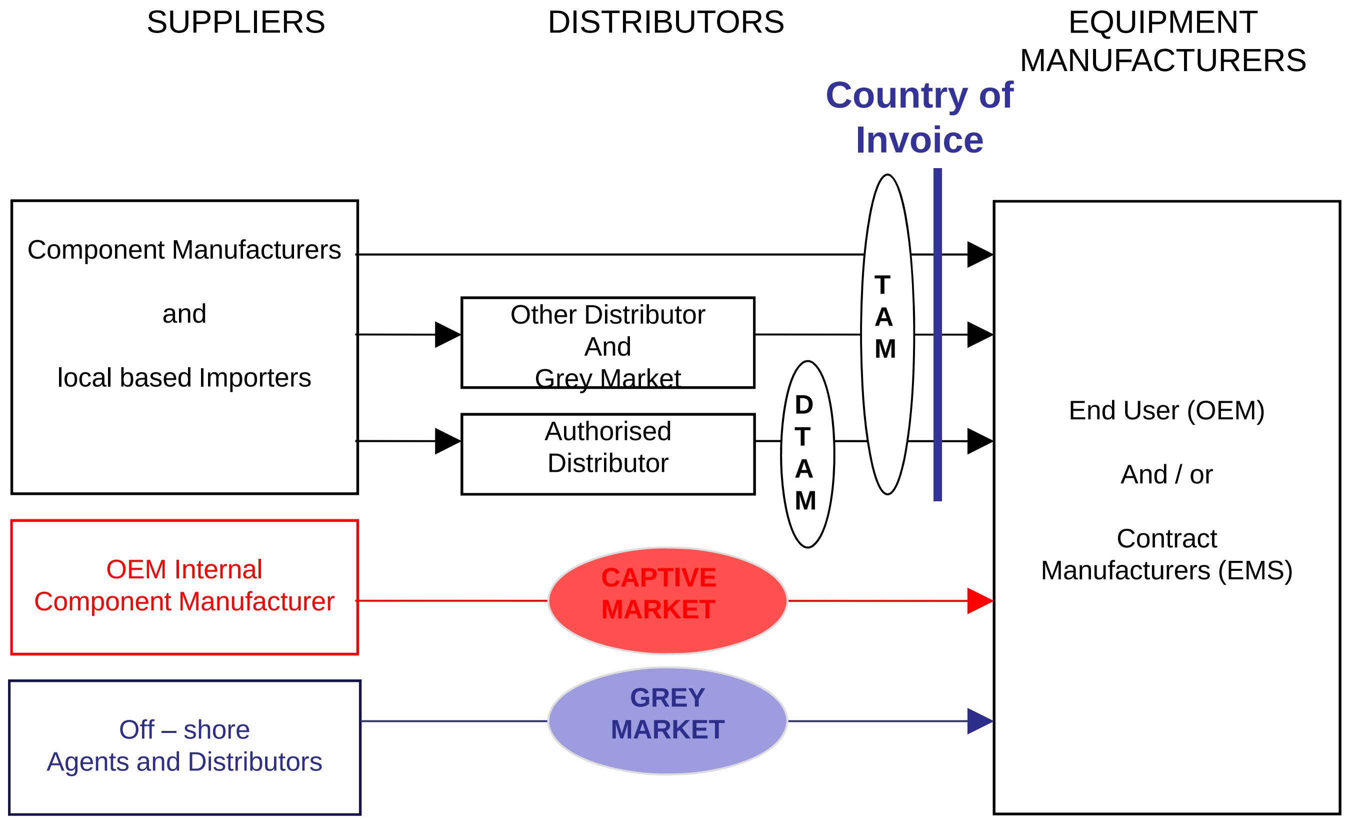
Measuring the Market



Measuring the Market



Electronic Components Market Model



Worldwide Semiconductors

For Semiconductors there are a number of analysts

2011 - $300Bn

Worldwide Connector Market

For Connectors there is one key analyst

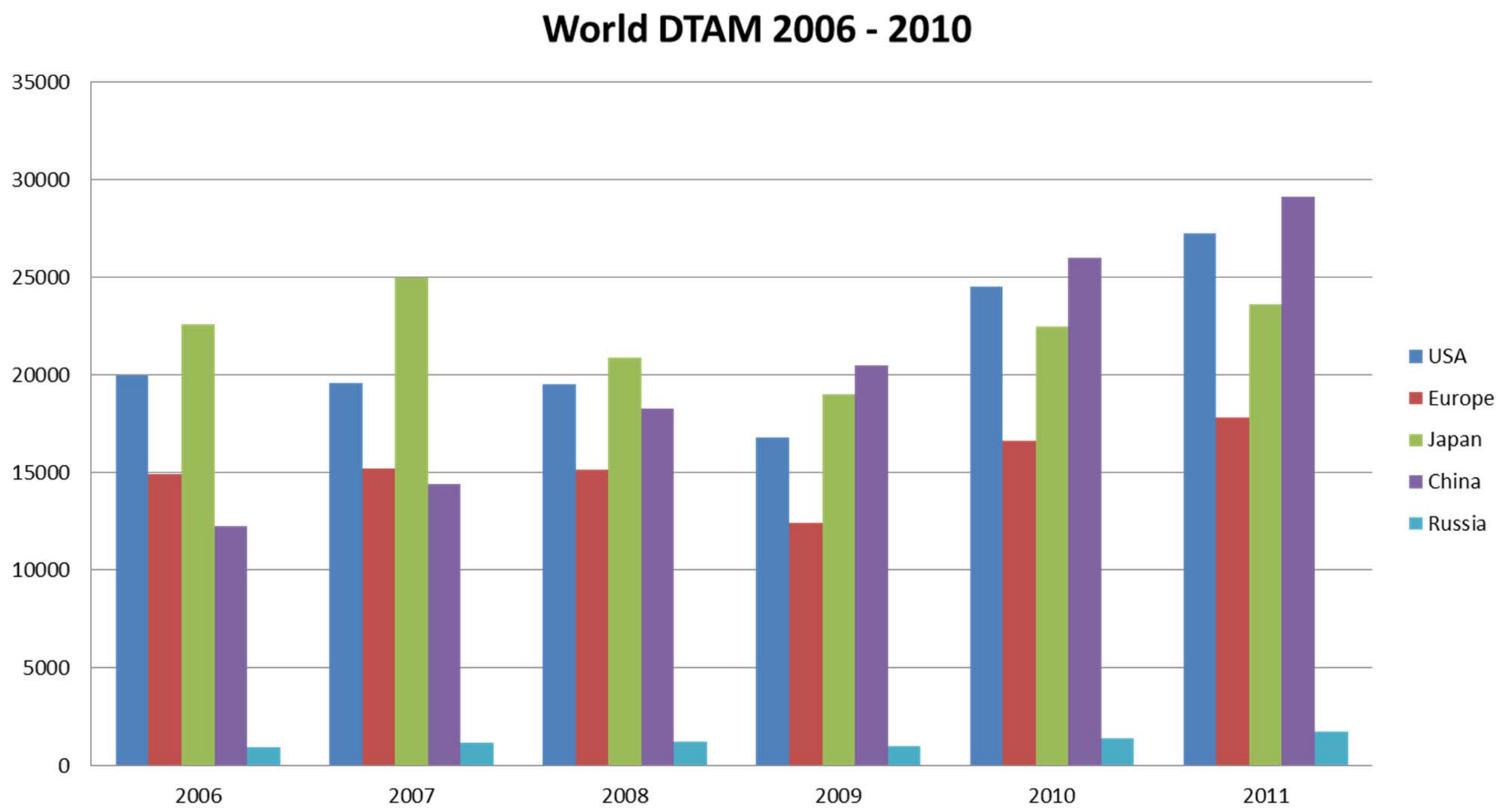
2011 - $50Bn

Other Components

- Passives - Paumanok
  - WPSP
- Electro-mechanical – No way
- Other components – No way
- There is no measure of the World Electronic Components Market
- We estimate World Component Market $500Bn of which Distribution is 20%

The Global(?) Distribution Market

A world tour

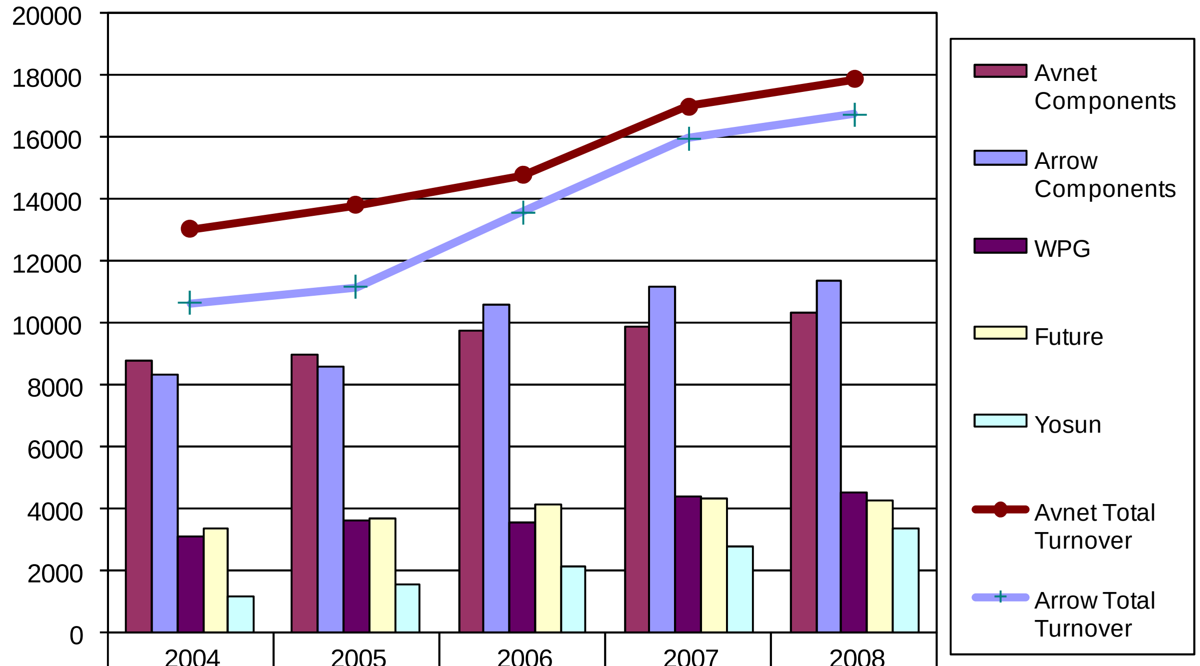


In 2011 the Global DTAM reached over $100Bn   Russia $1.7Bn

MAJOR WORLDWIDE ELECTRONIC COMPONENT DISTRIBUTION GROUPS

Top Electronic Component Distributors 2004 - 2008

$ Millions



	2004	2005	2006	2007	2008
Avnet Components	8797	9000	9766	9881	10324.9
Arrow Components	8346	8564	10577	11185	11361
WPG	3090	3600	3576	4360	4541
Future	3367	3675	4144	4309	4235
Yosun	1169	1514	2097	2746	3340
Avnet Total Turnover	13047	13800	14766	16993	17864
Arrow Total Turnover	10646	11164	13577	15985	16761

USA Components Market

- Total Components Market 2011
  - $80Bn
  - Distribution Share approx 33%
- Dominated by Top Ten – 77% of market
- Top 3 (Arrow Avnet Future) – 59%
- Traditional Model with highly established reps (agents) has been under severe pressure – Commission Structure and therefore growing use of Non-Franchised Distis
- Growing use of Catalog(ue) Houses – Digikey and Newark, Allied and Mouser

USA

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USA Distributor Market

	Semis		Passives		Emech & Other		Total Comps	
Year	**€Mill**	**$Mill**	**€Mill**	**$Mill**	**€Mill**	**$Mill**	**€Mill**	**$Mill**
2006	9539	11876	2420	3012	4083	5083	16042	19971
2007	9061	11383	2405	3022	4108	5161	15575	19566
2008	8294	11372	2301	3155	3655	5012	14250	19538
2009							12050	16803
2010							18477	24532
2011							19553	27231

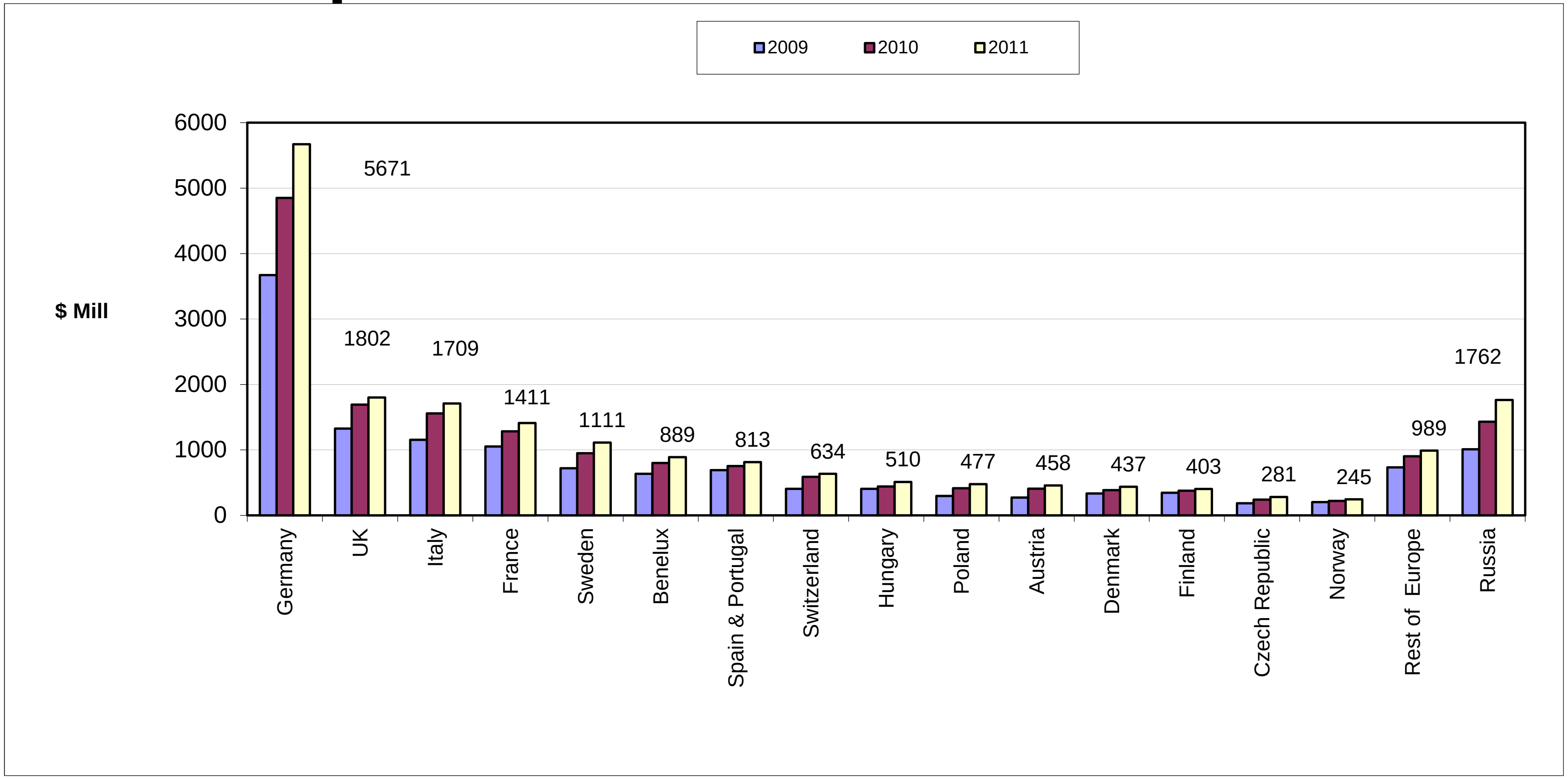
European Components Market

	Semis		Passives		Emech & Other		Total Comps	
Year	€Mill	$Mill	€Mill	$Mill	€Mill	$Mill	€Mill	$Mill
2009	19736	27520	4374	6099	11022	15370	35132	48989
2010	26457	35126	5845	7760	13963	18538	46264	61424
2011	27100	37740	6243	8695	14353	19988	47696	66423

European Distribution Market

	Semis		Passives		Emech & Other		Total Comps		DTAM as % of TAM			
Year	€Mill	$Mill	€Mill	$Mill	€Mill	$Mill	€Mill	$Mill	Semis	Pass	Emech & Other	Total
2009	4998	6970	1160	1617	2753	3839	8911	12426	25%	27%	25%	25%
2010	6904	9166	1559	2070	3484	4625	11947	15861	26%	27%	25%	26%
2011	7294	10158	1721	2397	3796	5286	12811	17841	27%	28%	26%	27%

European Distribution Market



TOTAL €12.8Bn $17.8Bn

Distribution in the UK

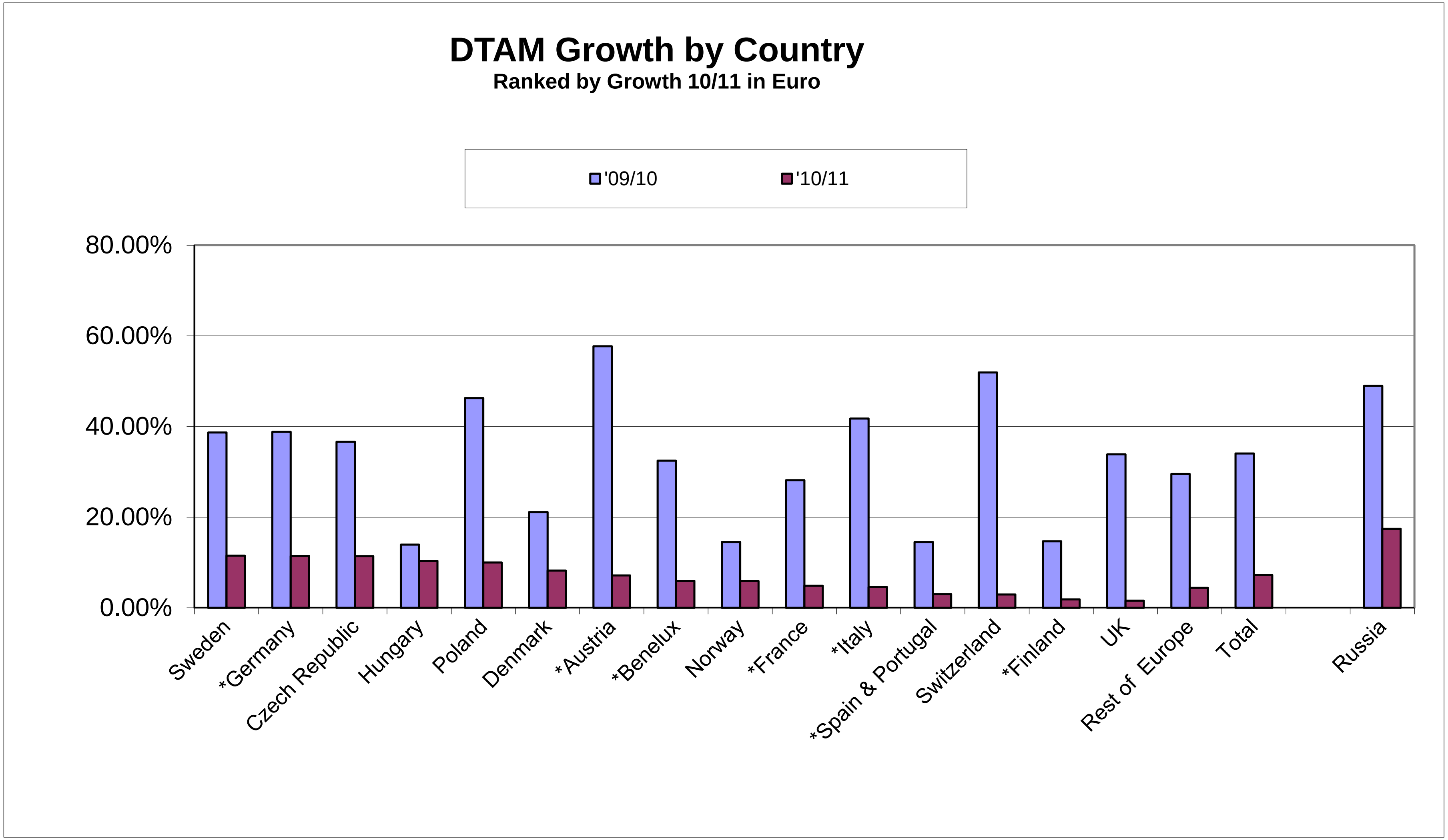
Dominated by Franchised Distributors

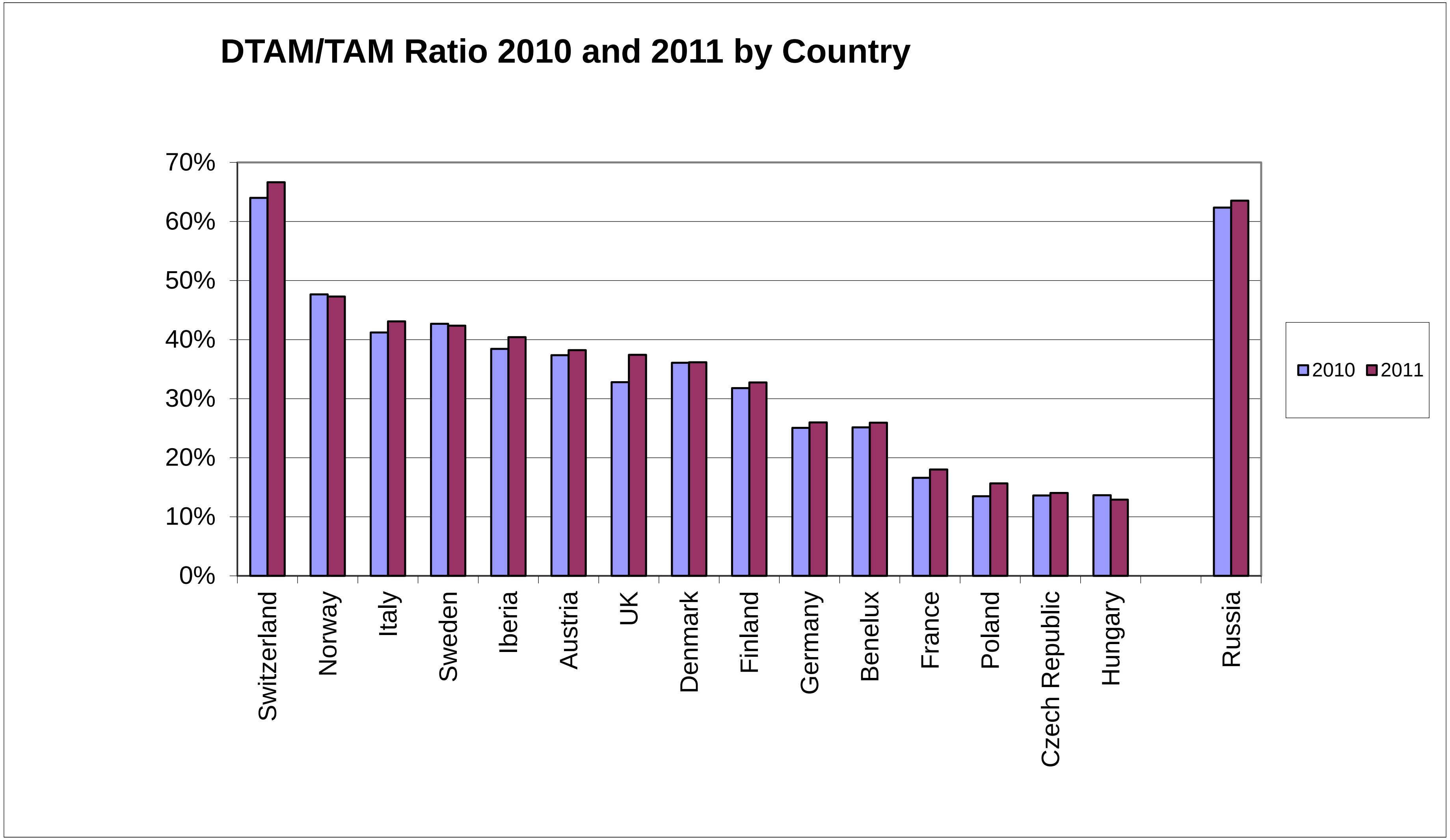
– Top Ten Distributors account for 75% of the DTAM, was over 78% in 2006
– Distributors have approx 40% of the Total market and this is continuing to rise
– Approx 200 Franchised Distributors
– 'Home' for the World's big Catalogue Distributors – but that is changing

Distribution in Europe

- Distribution in Europe follows the same basic model as in the UK
- Dominance of Franchised Distributors

- Key differences in the market per country


DTAM Growth by Country
Ranked by Growth 10/11 in Euro
'09/10
'10/11
80.00%
60.00%
40.00%
20.00%
0.00%
Sweden
*Germany
Czech Republic
Hungary
Poland
Denmark
*Austria
*Benelux
Norway
*France
*Italy
*Spain & Portugal
Switzerland
*Finland
UK
Rest of Europe
Total
Russia



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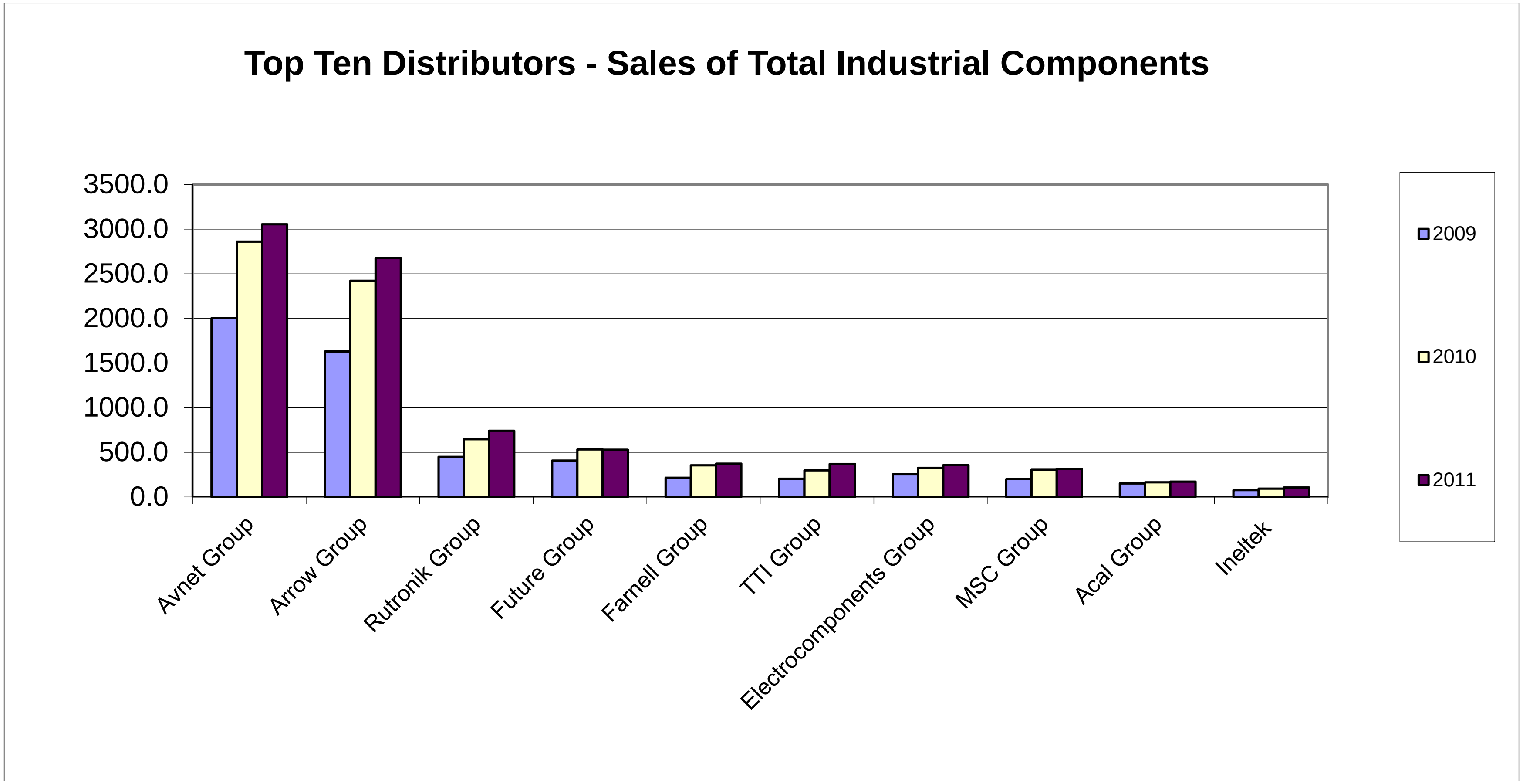
European Market?

After 20 years of ‘Europeanisation’ the markets of Europe still show distinct differences.

Historical factors can still be traced in the numbers

The market characteristics are still defined by the mix of customers active in those markets.

Europe



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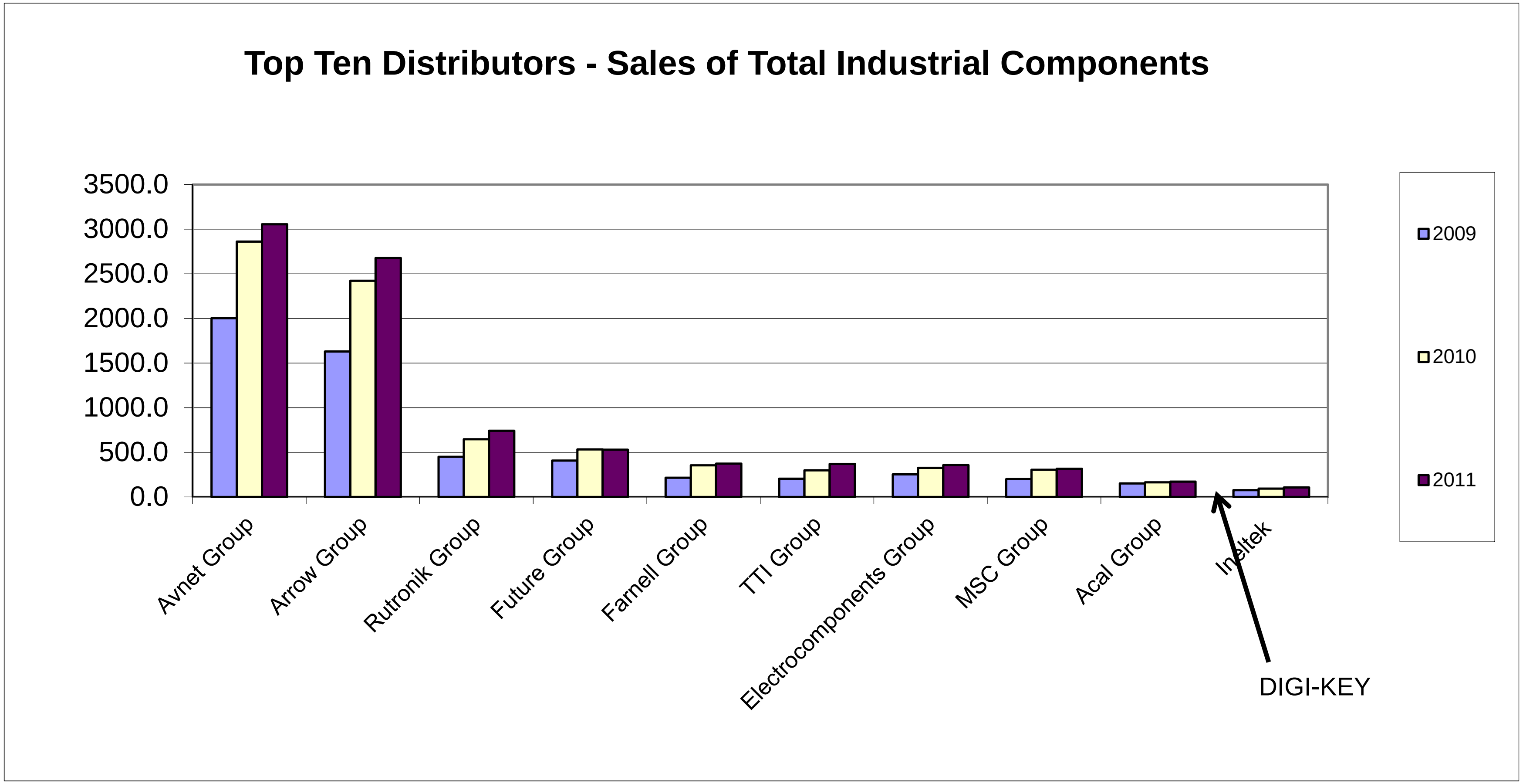
Europe



Top Ten Distributors - Sales of Total Industrial Components
3500.0
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Avnet Group
Arrow Group
Rutronik Group
Future Group
Farnell Group
TTI Group
Electrocomponents Group
MSC Group
Acal Group
Ineltek
DIGI-KEY
2009
2010
2011

Distribution Market - Russia

- Private Distributors started in 1990's and now over 400 active companies
- Many are small regional companies
- A few national-wide players are emerging
- Worldwide groups have still have a relatively small share of market
- Movement away from Moscow – more regional offices/networks

Russia Component Market 2009 - 2011

Currency	"TAM"			"DTAM"				"TAM"		Distribution		
Millions $	at First Invoice Value			Distributor Total Available Market			Total Available Market			Share %		
Product Category	Comp Manufacturers Sales(including sales to distribution) at Manufacturer value			Total Sales by Distributors at Sales to Customer Value			Total Purchases by end customers including the added margin of 2			Col 2 as % of Col 3		
	2009	**2010**	**2011**	**2009**	**2010**	**2011**	**2009**	**2010**	**2011**	**2009**	**2010**	**2011**
Semis	998	1405	1686	569	769	968	1095	1552	1862	52%	50%	52%
Passives	175	232	283	156	217	264	208	282	344	75%	77%	77%
Emech	172	225	254	169	243	285	192	254	298	88%	95%	96%
Comp Assy	107	184	239	112	201	242	125	205	266	89%	98%	91%
Total	**1452**	**2046**	**2462**	**1006**	**1430**	**1760**	**1620**	**2293**	**2770**	**62%**	**62%**	**64%**

Top 10 Russian Distributors 2011

Avnet Group
Compel Group
EFO
Eltech
ITC Electronics
MT-System
Prosoft
PT Electronics
Radiant-Elcom
Symmetron

Japan

- A different world!
  - Many ‘distributors’ are sole sales agents for major Japanese Semiconductor companies
  - Gives false view of DTAM (approx 60%)
    - Equivalent DTAM is estimated at 20-25%
- Penetration by Western companies very difficult
- Large Japanese Distributors starting to diversify by taking on other lines – improve cost coverage and customer demand.
- Large Japanese Distributors moving to China.
  - As manufacture moves to China, Distributors follow the customers
  - Offices in China just to serve their Japanese Customers
  - That is one solution to design-in registration

Unit: B$, 1$=100 yen

DTAM – Japanese Market

Category	Segment	2007	2008	CGR
Semiconductors	DTAM	18.9	14.9	79%
	TAM	47.9	47.4	99%
	DTAM Share	39%	31%	80%
Components	DTAM	6.1	6	98%
	TAM	16.2	16.1	99%
	DTAM Share	38%	37%	99%

Japanese Electronic Distributors Ranking Top 10

Unit: $M, $=100 yen

2008	2007	2006	Company	2005	2006	2007	2008	2009 FCST	Growth('08/'07)
1	1	3	**Kaga Denshi**	2,577	2,680	2,900	2,736	2,630	94%
2	1	1	**Ryosan**	3,262	3,100	2,860	2,208	1,700	77%
3	3	4	**Sanshin**	2,004	2,700	2,620	2,296	1,940	88%
4	4	2	**Marubun**	2,375	2,750	2,452	1,999	2,130	82%
5	5	6	**Ryoden**	2,202	2,250	2,227	1,908	1,807	86%
6	4	4	**Fujitsu Device**	2,282	2,500	2,500	1,890	1,700	76%
7	6	8	**USC**	1,967	2,000	2,345	1,871	1,550	80%
8	7	7	**Satori**	2,317	2,230	2,109	1,700	1,700	81%
9	8	10	**Shinko Shoji**	1,598	1,820	2,063	1,433	1,200	69%
10	9	12	**Tomen Device**	1,250	1,500	1,746	1,354	1,070	78%
			TTL	21,834	23,530	23,822	19,395	17,427	81%

China

- Yet another world!
  - Very difficult to establish a picture of a rapidly growing and changing market.
  - Over 300 Distributors identified – ‘tip of iceberg’
  - Most Distributors are ‘traders’
  - Major Distributors are focussed on key applications e.g. mobile phones, LCDTV etc and aim to sell complete solution (including design)
  - Many Distributors are serving customers outside of China – Local Low cost components shipped to Europe and USA
  - China’s estimated franchised distribution total available market (DTAM) was US$18.3 billion in 2008, it accounted 7.8% of China’s TAM.

China Top Ten International Distributors

	2006		2007		2008	
	Mill $	Mill €	Mill $	Mill €	Mill $	Mill €
TOP 10 INTERNATIONAL						
WPG & SAC	1265	1006.9	1500	1205.9	1635	1111.0
Avnet & Memec	1287	1024.4	1250	1004.9	1375	934.3
Arrow	960	764.1	1280	1029	1400	951.3
Cytech Technology	400	318.4	460	369.8	390	265.0
Excelpoint System	366	291.3	380	305.5	350	237.8
Future	330	262.7	400	321.6	408	277.2
Yosun	324	257.9	350	281.4	300	203.9
Nu Horizon	68.4	54.4	77	61.9	80.6	54.8
Richardson	80	63.7	100	80.4	120	81.5
TTI	51.8	41.2	56.9	45.7	63.7	43.3
Total Top Ten Int'l	**5132.2**	**4122.5**	**5853.9**	**4706.1**	**6122.3**	**4160.1**

Source: China Outlook Consulting

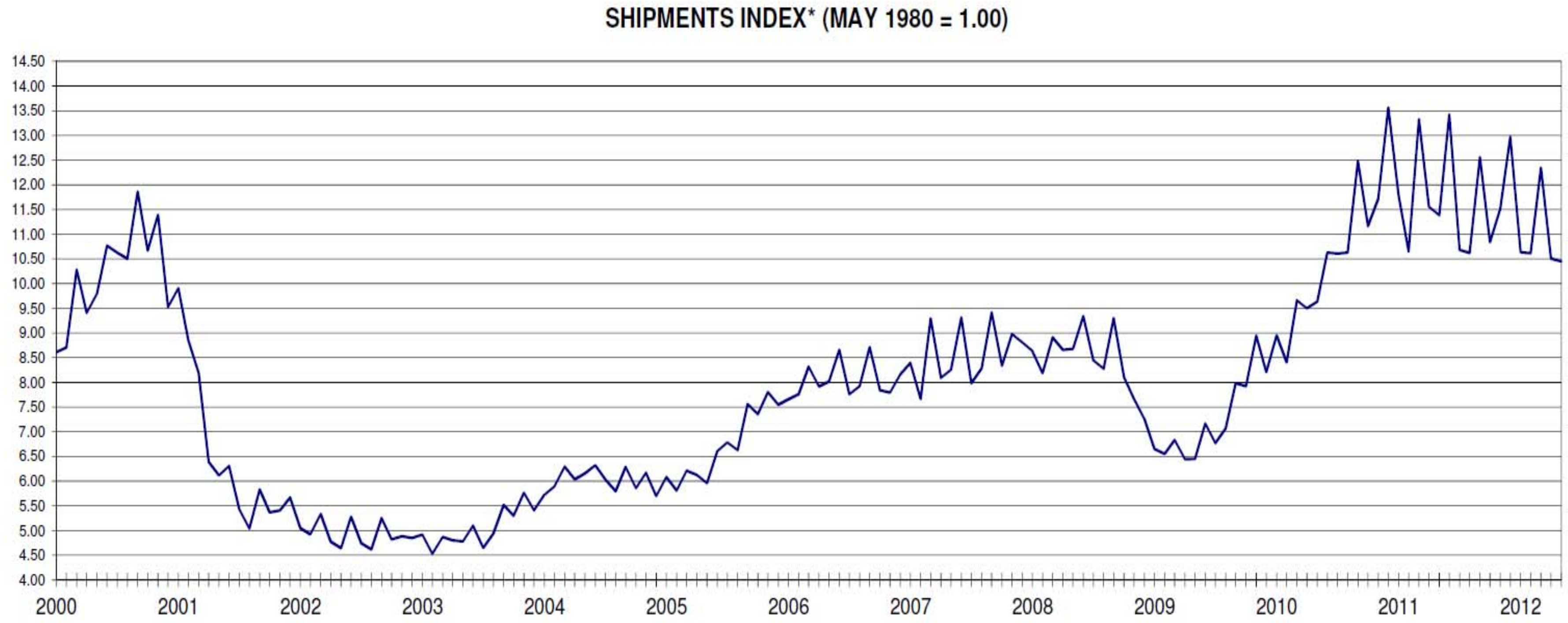
China Top Ten National Distributors

Company Name	2008 Revenue (US$Million)	2009 Growth
SAS Dragon Group (HK) Ltd	440	-10%
Sterntec Electronics Co., Ltd	158	-5%
Comtech Communication Technology (Shenzhen) Ltd	276	10%
Asiacom Technology	150	10%
Beijing Techtronics Co., Ltd	136	5%
EIL Company Ltd	120	Flat
Shenzhen Road-Well Electronics	101	5%
Polar Star Corporation	100	12%
Honestar Technologies Co., Ltd	99	40%
Shenzhen Secom Telecom Co., Ltd	95	30%

Source: China Outlook Consulting

What is happening in 2012

ECIA US Data for Jan 2000 to Jun 2012



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IDEA European Data for Q1 2010 to Q2 2012

(France, Germany, Italy, Nordic and U.K.)

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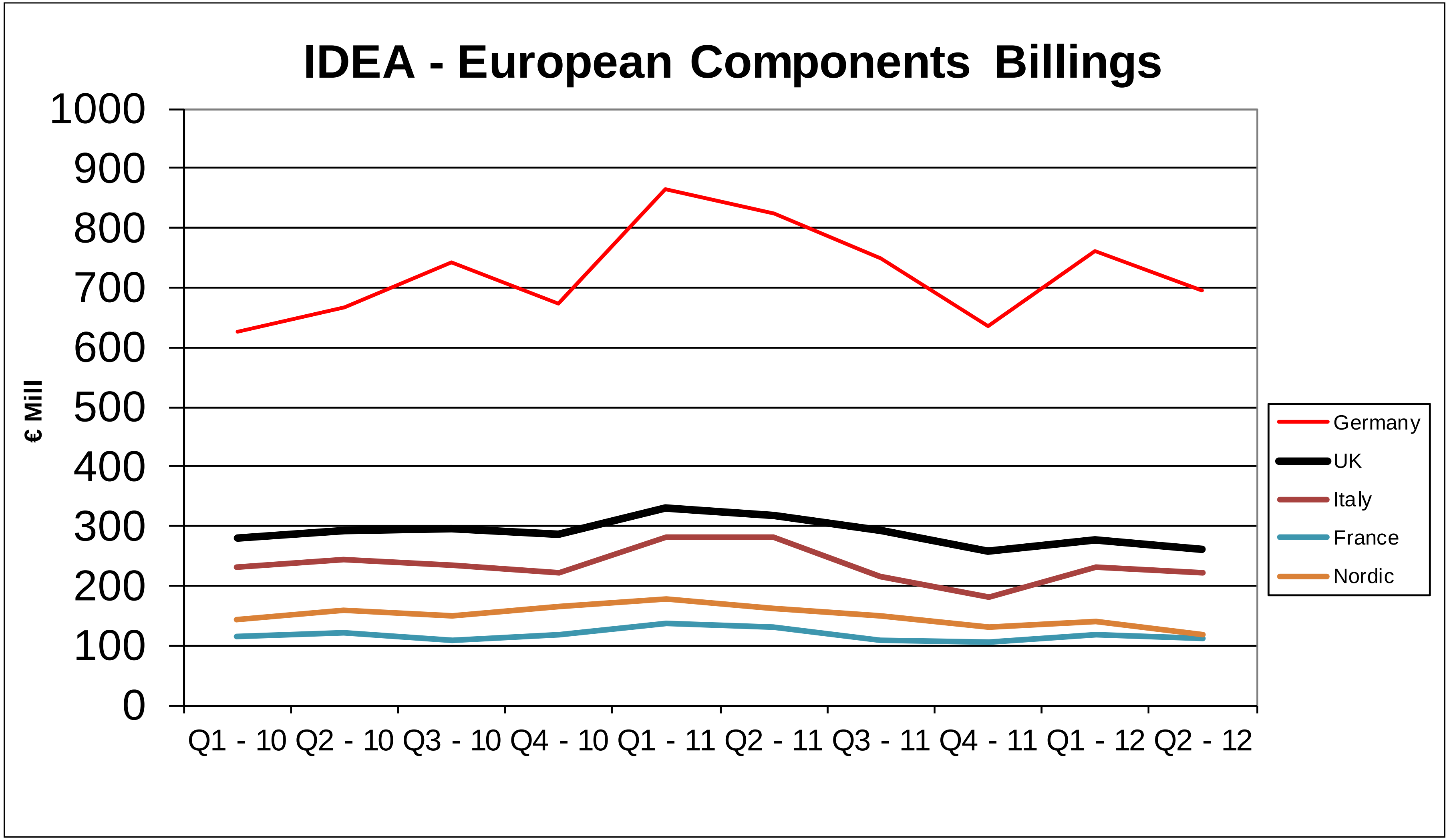

Source: **IDEA** Quarterly Trend Statistics Q2 12

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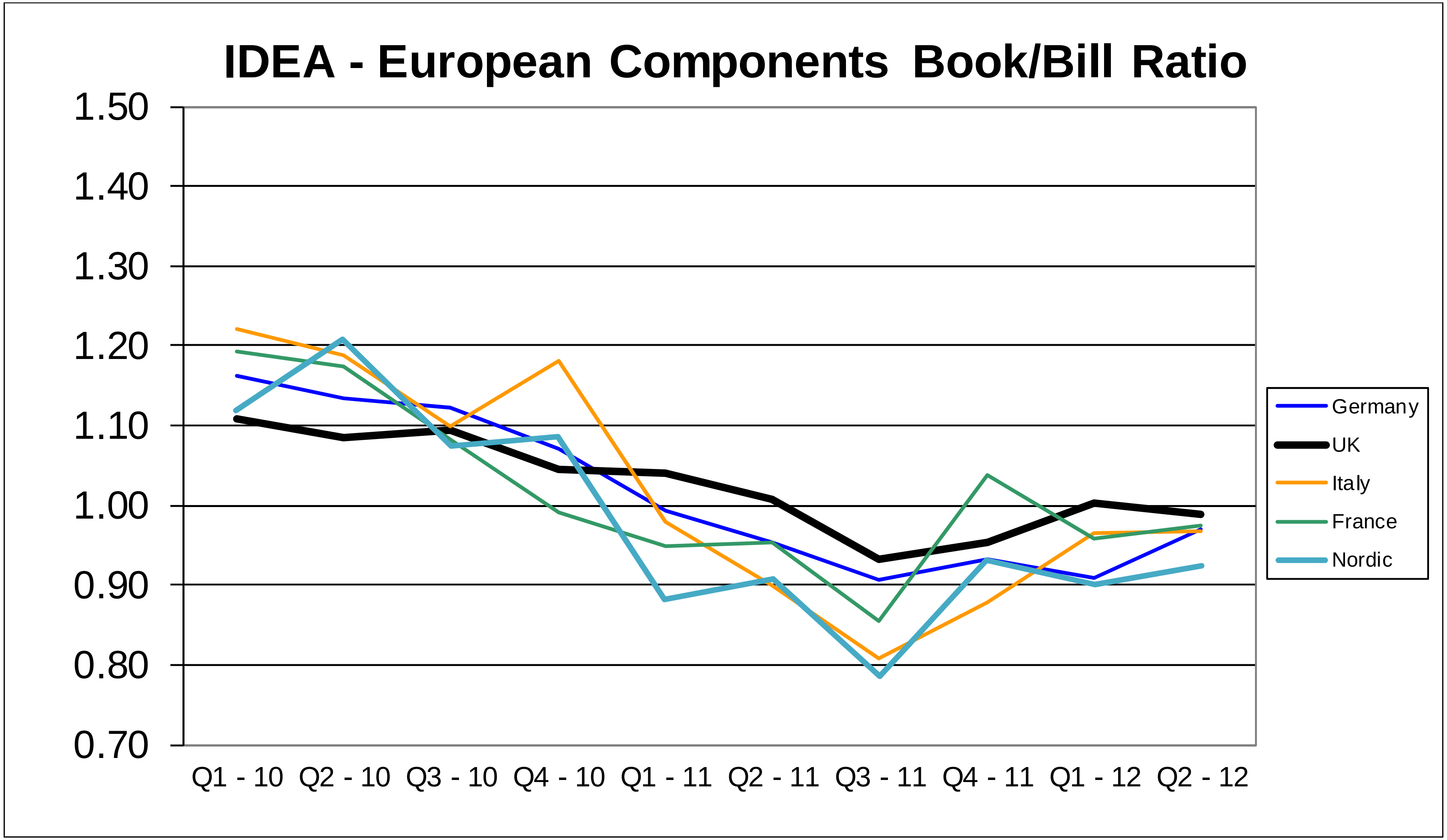

Source: **IDEA** Quarterly Trend Statistics Q2 12

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Global Components Market Outlook

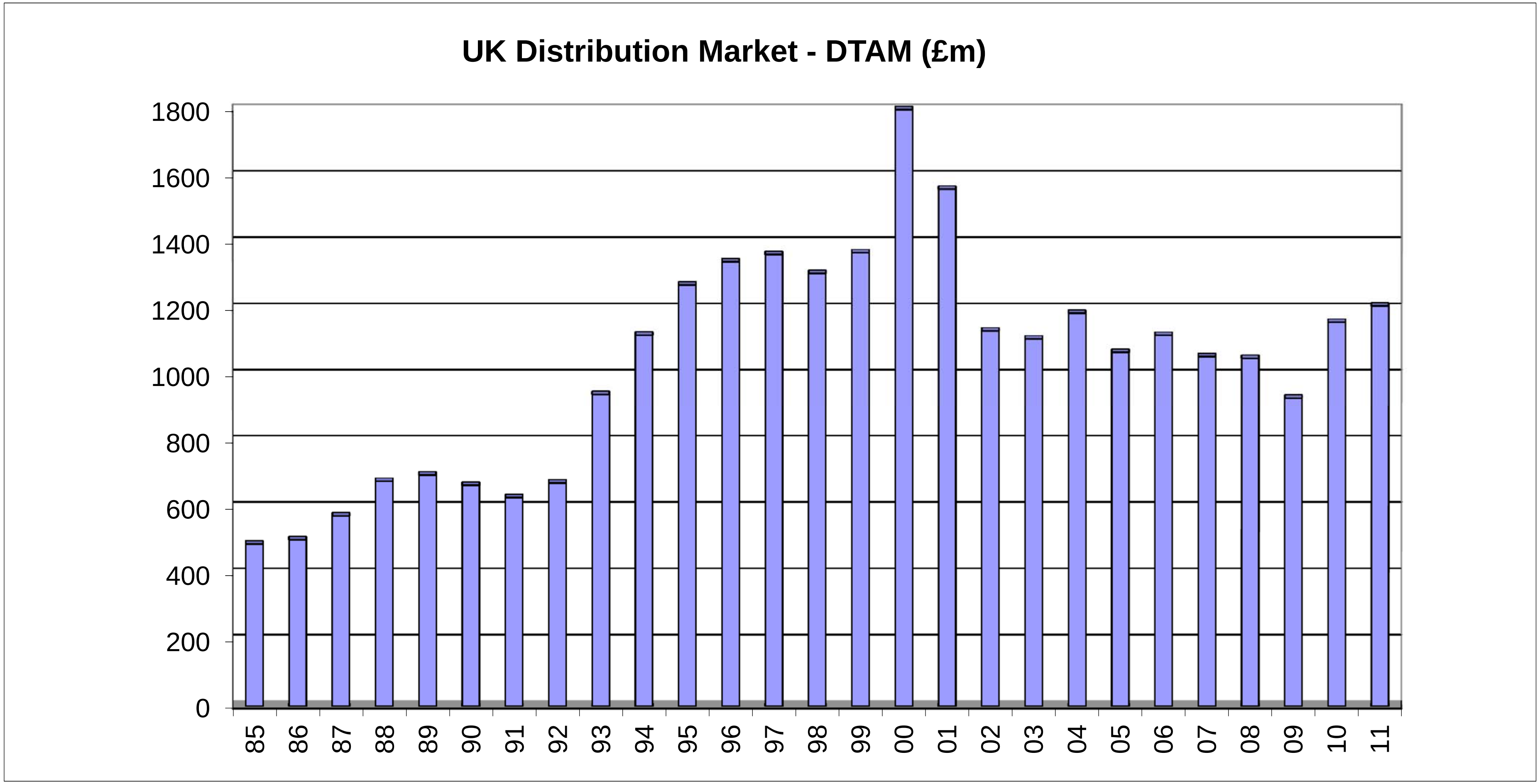
- Semiconductor Industry Analysts are forecasting that the Global Semiconductor market will continue to grow in 2012 and 2013

Organisation	2011	2012	2013
Future Horizons	1%	4%	15.6%
WSTS	0.4%	0.4%	7.2%
Gartner	-0.1%	0.6%	6.9%
Isuppli	1.2%	-0.1%	7.0%

Global Components Market Outlook

- Following the surge in Demand driven by the Consumer market early in 2010 when production capacity had been reduced, lead times on many products became extended(12 – 20 weeks). Component Manufacturers expanded capacity and the supply network came back into balance.
  As with previous demand driven cycles there was bound to be some degree of overshoot. However in 2011 the Japanese tsunami and nuclear disaster compounded the situation. Although the recovery of the Japanese industry is to be admired, with so much of the materials that are used in electronic components being sourced from Japanese companies, the overall effect was to encourage some overstocking of the global supply chain as organisations sought to protect themselves from predicted problems.
- At the same time it became clear that the recovery from the 2009 recession was not following historical trends. With the US economy not growing as expected and the growing debt crisis in Europe, talk of double-dip recession, deficit reduction etc. has undermined consumer and business confidence across the world.

UK & Ireland Electronic Components Distribution Market



* Mid Point Forecast
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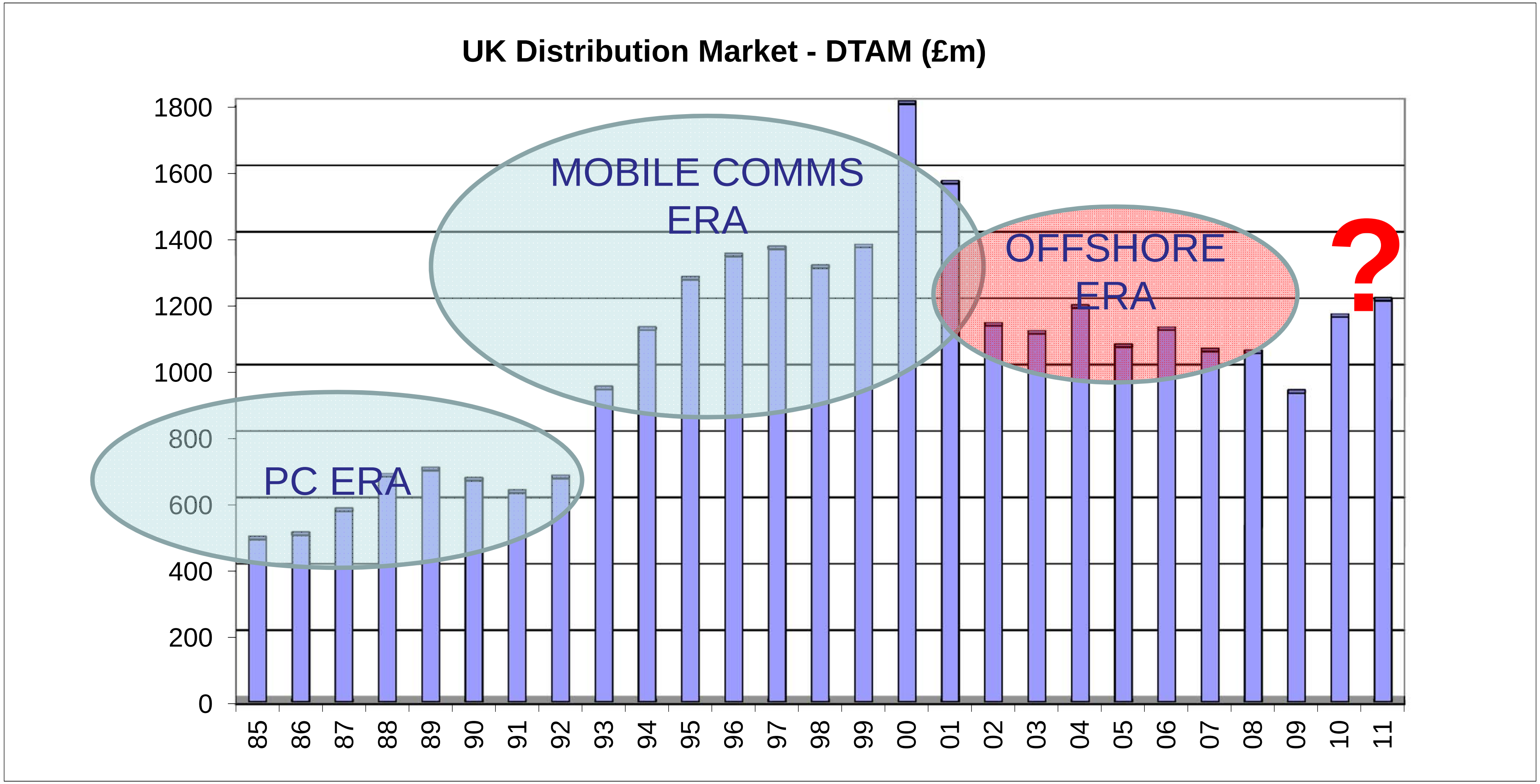
UK & Ireland Electronic Components Distribution Market



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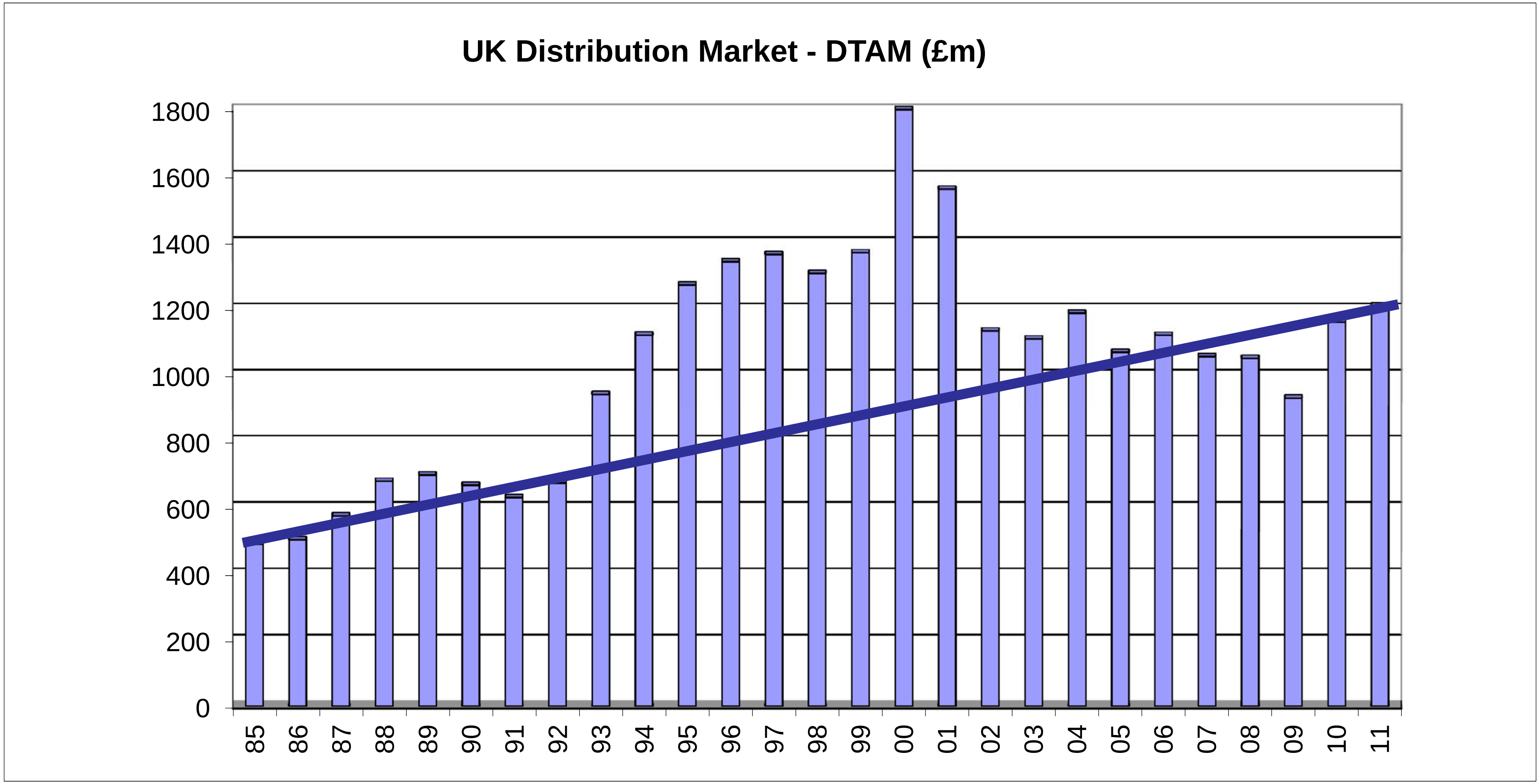


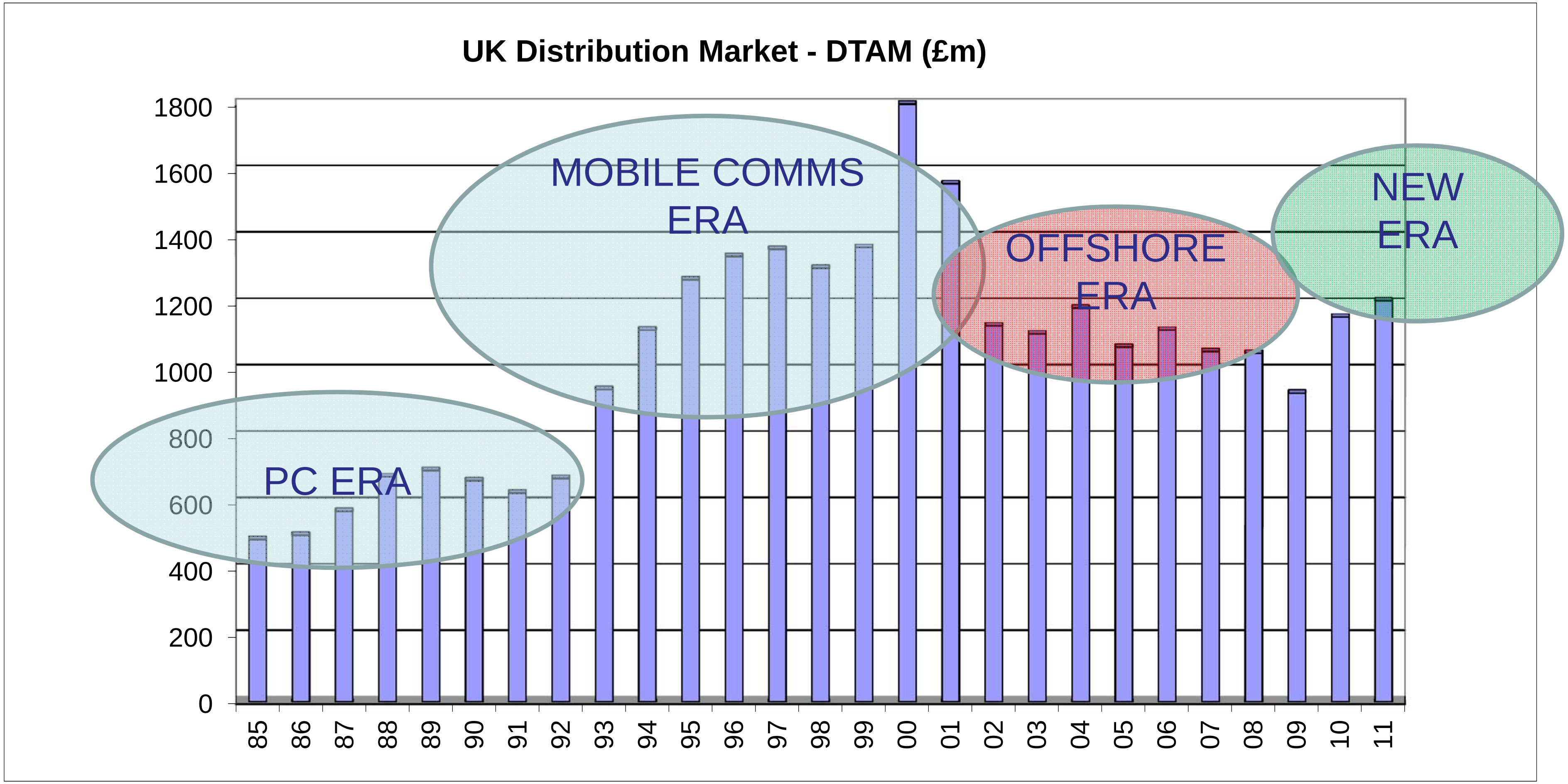
* Mid Point Forecast

The Specialist Consultancy to the Electronic Components Industry

Forecast 2012 and Beyond

- I don’t do forecasts
- If I could I wouldn’t be here!!
- I have witnessed the complete collapse of the CRT industry in less than 3 years.
- The speed of change is too great
- Consumer Electronics is becoming a ‘fashion’ industry

UK & Ireland Electronic Components Distribution Market



* Mid Point Forecast

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The new era

- Consumer Electronics – has gone East and will now move to the BRIC's
  - Europe is now a 'small market'
  - Not necessarily the infrastructure
- Electronic systems will continue to invade more and more areas.
  - Power Management – Smart Metering and Control
  - Automotive (Power, Infomatics, Driver Assistance)
- Ageing Population will drive Medical applications.
  - Medical will be the new Consumer Products

The new era (contd)

- Companies will take back control over their components (Automotive never let it go)
  - Counterfeiting
  - Security of supply in a rapidly changing world
  - Control over key technology
- Europe/USA will continue as the design house and therefore will continue as growing markets
- The ‘Market’ will become more difficult to define
  - Point of ‘Sale’ and Point of ‘Use’ will move even further apart

Conclusion

- Electronics was and is a fast moving and growing industry in Europe and the USA
- All the different technologies move forward together – interdependent.
- Increasingly the industry is being driven by smaller companies
- Distribution will continue to play a key role not only in ‘supply-chain’ but also in Demand Creation as number of applications and the number of companies continue to expand.

So is the Electronic Components Market really Global?

YES or No

So is the Electronic Components Market really Global?

If it is then you can’t define it, or measure it and it is different in every country.

THANK YOU