

Afera Annual Conference  
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## The next generation of tape makers and users



# UPDATE ON THE PSA INDUSTRY

Source: Freedonia Study, issued October 2016

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Promoting the interests of the adhesive tape industry

## Agenda

Global PSA tape market

1. Introduction/ Summary
2. Demand by
  - region
  - type of tape
3. Supply / Production
  - details per Region
4. Markets

# INTRODUCTION - SUMMARY

- China/ Asia is and will be THE dominant/ most relevant player for:
  - Supply
  - Demand
  - Raw materials
- Biggest influence on Chinese market is future (local) regulations, e.g. environmental restrictions, labor laws, salary levels, etc.

Macro trends

## 2. PSA TAPE DEMAND

## WORLD PRESSURE SENSITIVE TAPE DEMAND (million square meters)

Item	2010	2015	2020	2025	% Annual Growth	
					15/10	20/15
World Population (mil persons)	6896	7314	7725	8115	1.2	1.1
World Gross Domestic Product (bil 2014\$)	95300	112460	133700	158900	3.4	3.5
World Mfg Value Added (bil 2014\$)	15590	18820	22750	27050	3.8	3.9
m <sup>2</sup> /capita	5.0	5.9	7.1	8.0	--	--
m <sup>2</sup> /mil \$ GDP	364	385	399	407	--	--
m <sup>2</sup> /000\$ MVA	2.2	2.3	2.3	2.4	--	--
<b>World Pressure Sensitive Tape Demand</b>	<b>34725</b>	<b>43325</b>	<b>53400</b>	<b>64750</b>	<b>4.5</b>	<b>4.3</b>
North America:	7679	9090	10520	11965	3.4	3.0
United States	6425	7620	8775	9890	3.5	2.9
Canada & Mexico	1254	1470	1745	2075	3.2	3.5
Western Europe	5706	6090	6805	7540	1.3	2.2
Asia/Pacific:	16300	21850	28285	35295	6.0	5.3
China	9605	13495	17540	21590	7.0	5.4
Japan	1870	2040	2185	2360	1.8	1.4
Other Asia/Pacific	4825	6315	8560	11345	5.5	6.3
Central & South America	1881	2180	2555	3145	3.0	3.2
Eastern Europe	1800	2252	2760	3430	4.6	4.2
Africa/Mideast	1359	1863	2475	3375	6.5	5.8
<b>\$/m<sup>2</sup></b>	<b>0.84</b>	<b>0.92</b>	<b>1.02</b>	<b>1.12</b>	<b>1.8</b>	<b>2.1</b>
Pressure Sensitive Tape Demand (bil \$)	29.2	40.0	54.4	72.5	6.5	6.3

GLOBAL PSA TAPES INDUSTRY STUDY,  
SOURCE: FREEDONIA, published October 2016

# PSA TAPE – GLOBAL DEMAND 2020

- In **volume** terms:
  - 53.4 bn m<sup>2</sup> - growth of **4.3% p.a.**
  - 43.3 bn m<sup>2</sup> in 2015
- In **value** terms:
  - \$54.4 bn – growth of **6.3% p.a**
  - \$40 bn in 2015
- Average tape **prices**
  - From ~ \$0.92 per m<sup>2</sup> in 2015
  - To \$1.02 per m<sup>2</sup> in 2020 - projected to **increase ~ 2%** per year

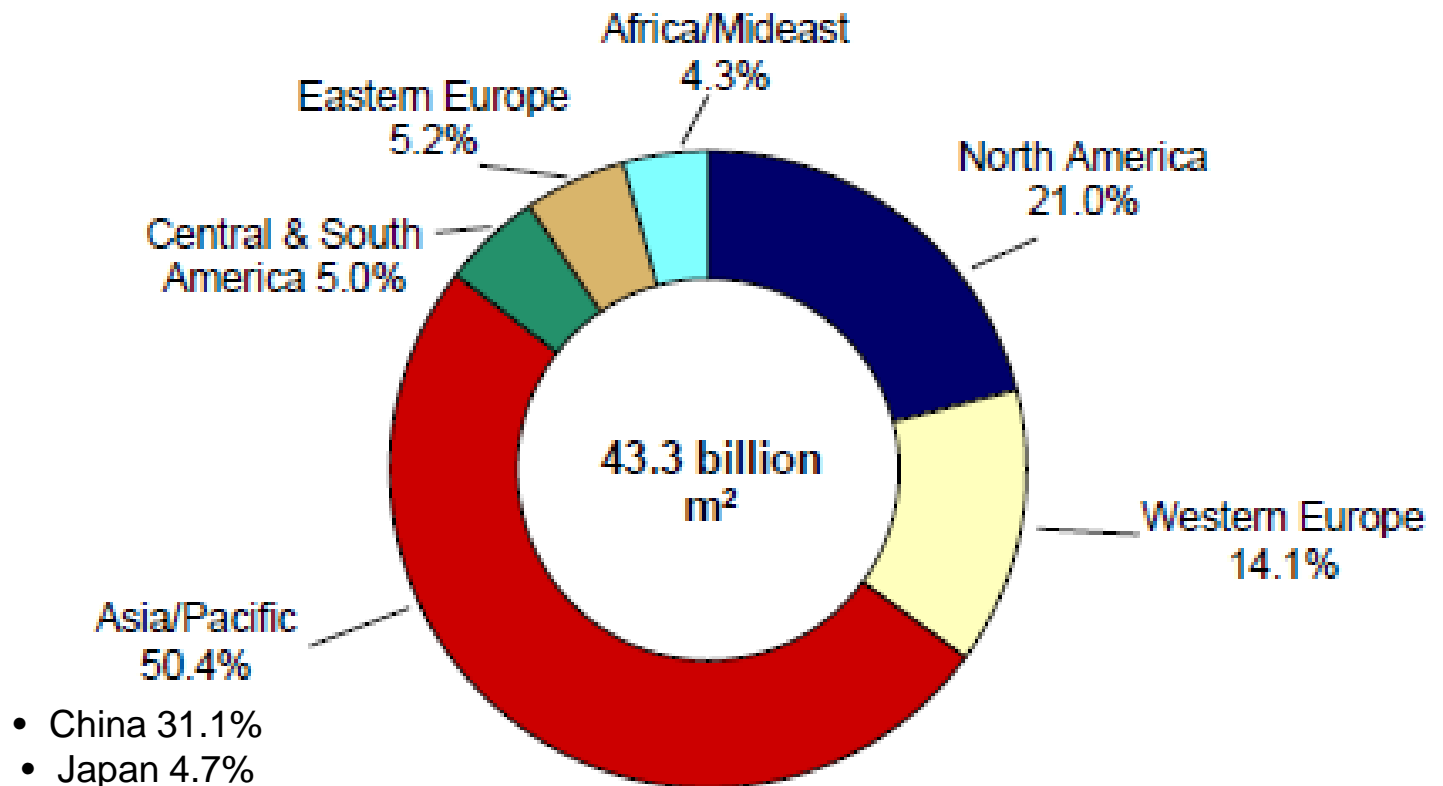
(oil and natural gas prices are expected to remain comparatively low by historical standards)

PSA tape demand

# DEMAND BY REGION

# PSA TAPE – REGIONAL DEMAND (VOLUME)

## WORLD PRESSURE SENSITIVE TAPE DEMAND BY REGION, 2015





# PSA TAPE – REGIONAL DEMAND (VOLUME)

CAGR (%)

10-15	15-20	20-25	
4,5	4,3	3,9	World
6,5	5,8	6,4	Africa & Mideast
3,0	3,2	4,2	Central & South America
4,6	4,2	4,4	Eastern Europe
1,3	2,2	2,1	Western Europe
3,4	3,0	2,6	North America
6,0	5,3	4,5	Asia Pacific

# PSA TAPE – REGIONAL DEMAND - OUTLOOK

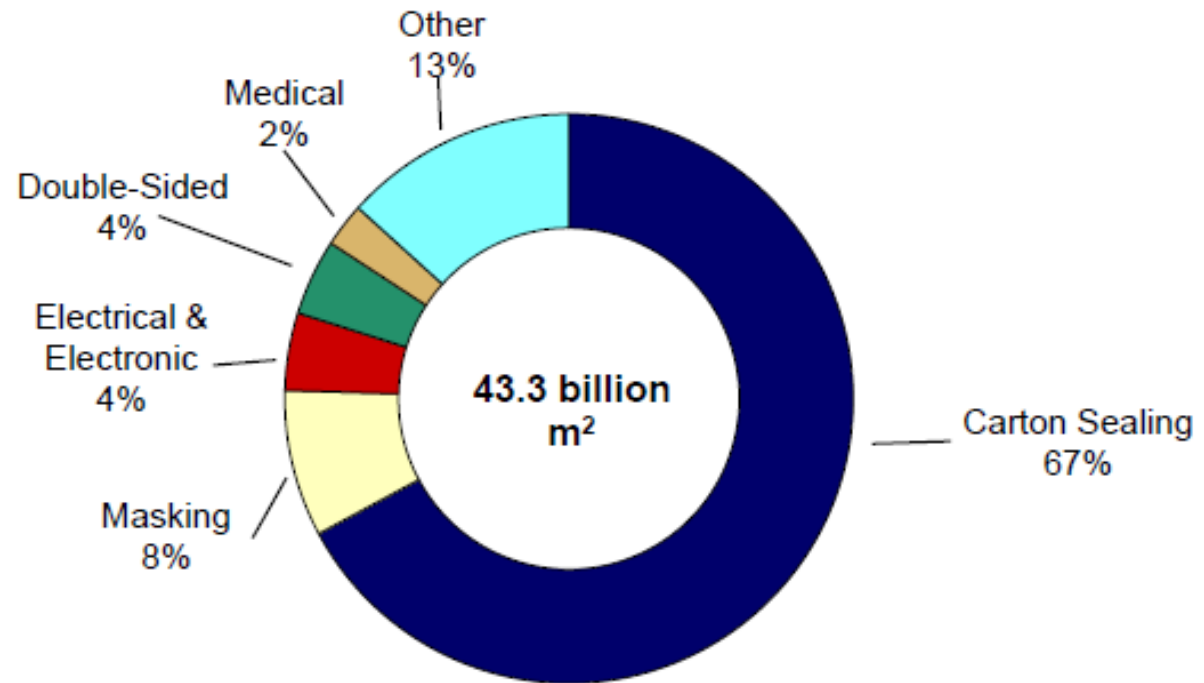
- The **Asia/Pacific** region, will continue to grow above average by increased manufacturing output, especially in the food and beverage market
- The **Chinese** market equals combined size of USA and Western Europe; it will remain the largest market by a wide margin despite some ongoing economic slowdown.
- The **Africa/Mideast** region will register the fastest growth through the forecast period, but will still account for less than 5% of global demand by 2020.  
*Not the next generation yet!*
- The more mature markets of **NAM, WEU, and JPA** will continue to account for more than one-third of total demand in 2020. However, growth opportunities in these markets will be more restrained.
  - In the **US, modest gains** in manufacturing output will support sales of carton sealing tapes, as will increases in motor vehicle production and construction activity.
  - In **Western Europe, rebounding construction** activity following a long period of decline will boost the use of masking and other tapes.
  - **Japan's economic growth will remain slow**, but the country will remain a significant producer and consumer of specialty tapes, such as those used in motor vehicle and electronics assembly.

PSA tape demand

# DEMAND BY PRODCUT TYPE

# PSA TAPE – DEMAND BY TYPE (VOLUME)

## WORLD PRESSURE SENSITIVE TAPE DEMAND BY TYPE, 2015



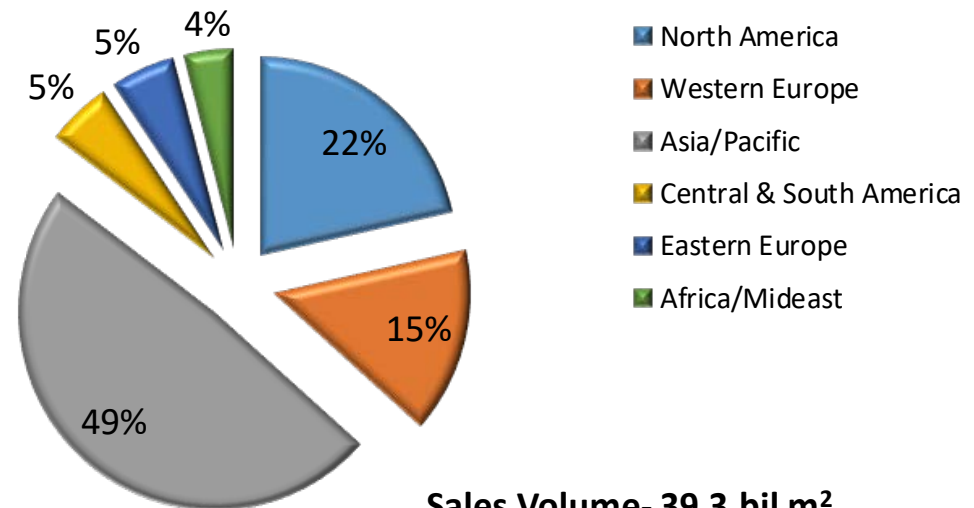
# PSA TAPE – DEMAND BY TYPE 2020

- **Carton sealing tapes (CST)** demand is forecast to grow 4.1% p.a. to nearly 36bn m<sup>2</sup>
- **Masking tapes**, including both commodity and high performance types, is expected to increase 4.7% p.a. to nearly 4.6bn m<sup>2</sup>
- While carton sealing tape (CST) will continue to account for the majority of demand, a number of specialty tape types - including medical and double-sided tapes - are expected to register faster growth:
  - **Electrical and electronic** tapes (excluding double-sided types, which are covered separately) are projected to grow 3.8% p.a. to 2.3bn m<sup>2</sup>
  - **Double-sided tapes** are projected to grow 5.7% p.a. to nearly 2.5bn m<sup>2</sup>, faster than the overall average for the global tape market.
  - **Medical tapes** demand, including surgical, medical equipment, and sports medicine and athletic tapes, is projected to rise 4.9% p.a. to 1.4bn m<sup>2</sup>

# 3. SUPPLY / PRODUCTION

# SUPPLY/ PRODUCTION OVERVIEW – YESTERDAY

- **Asia/Pacific**
  - In 2003 accounted for 40% of world PSA production
  - In 2013 this stood at ~ 50%
- Tape production in more advanced economies declined between 2008 – 2013:
  - Western Europe slowed; growth in the US at less than 1%.
- **Tape manufacturing:**
  - **China is now world's largest manufacturer, supplying to APAC, Eastern Europe, and North America.**
  - Taiwan and Indonesia also produce tapes mainly destined for export markets.
  - Italy is Europe's leading manufacturer, supplying much of the market in both Western and Eastern Europe.



**2013**

**Sales Volume- 39.3 bil m<sup>2</sup>**  
**Average Sales Price- 1.03 \$/m<sup>2</sup>**  
**Sales Value- bil \$ 40.5**

# PSA TAPE – SUPPLY/ PRODUCTION TODAY

- The Asia/Pacific region will expand its share of global output from 56% in 2015 to nearly 60% in 2020.
- China and the US will remain the two leading global producers of tape, with China now the largest by a wide margin.
- Italy has seen much of its traditional market stagnate or decline in recent years, as demand in WEU has stalled for the most part, and EEU remains a still-underdeveloped market for PSA tape.
- Taiwan has seen one of its traditional export markets, China, boost domestic production. Some Taiwanese suppliers to the Chinese market have shifted production to mainland China, retaining their share of the market.
- China, India, and Indonesia will continue to see strong growth in tape production, although India's production remains low relative to the size and growth of the domestic tape market.
- Japan's tape industry will remain important despite seeing little growth through 2020, due to a sluggish domestic market and increased production in neighboring countries that were once more import-reliant

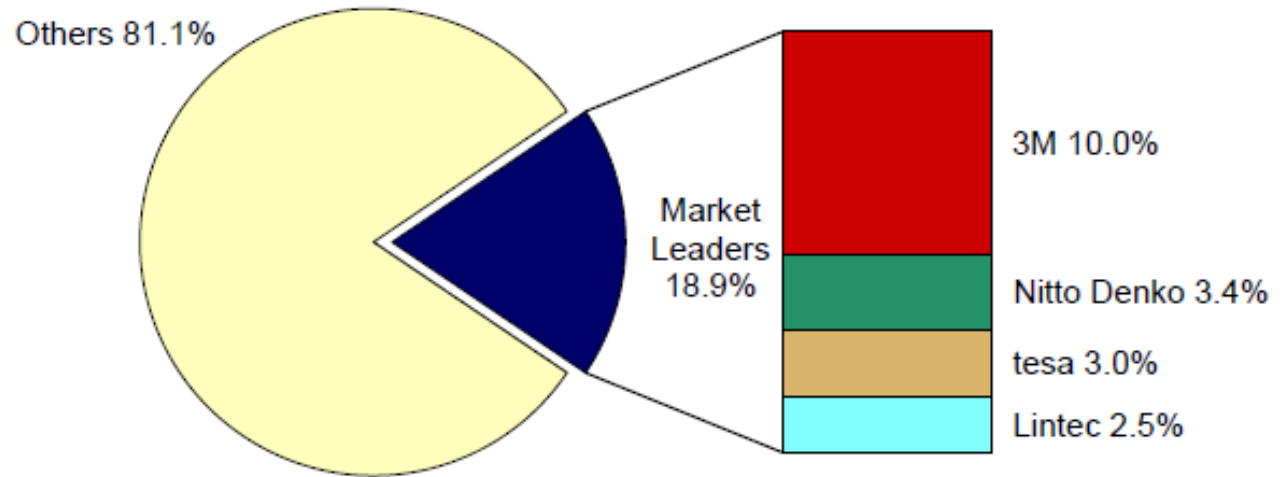


SUPPLY / PRODUCTION

# THE PLAYERS

# PSA TAPE – SUPPLY/ PRODUCTION BY PLAYER

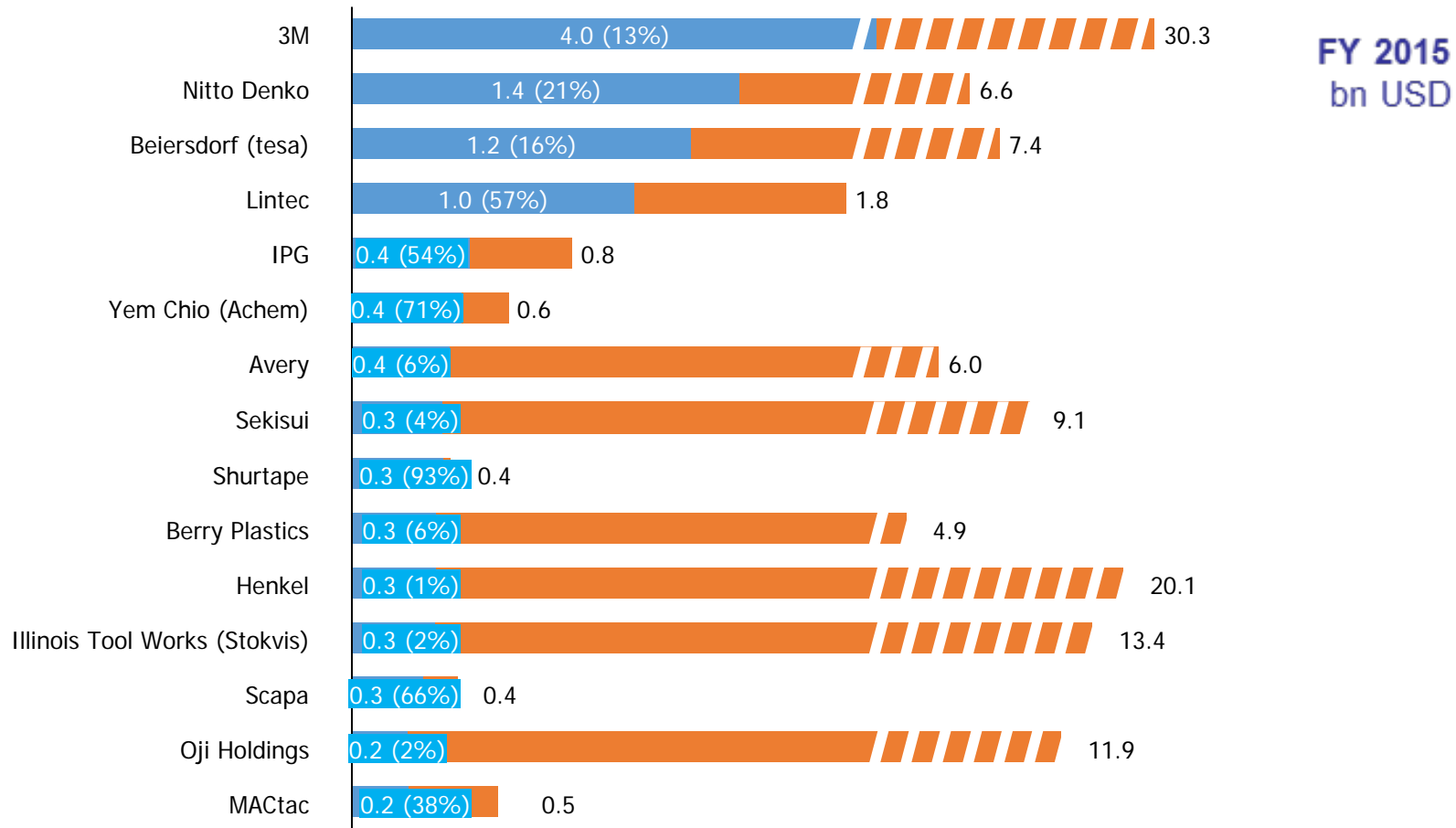
**WORLD PRESSURE SENSITIVE TAPE MARKET SHARE, 2015**  
(\$40 billion)



- **Thousands of firms are active** in the global pressure sensitive tape industry, including converters. Still, the global market is led by a few dozen firms, the largest of which are active in most of the world's major geographic markets.
- 3M, Nitto Denko, tesa, and Lintec -- controlled nearly 20 percent of the global pressure sensitive tape market in value terms in 2015 (>1bn sales each)

# PSA TAPE – SUPPLY/ PRODUCTION BY PLAYER

- Most players are diversified conglomerates, PSA Tapes just one of several streams of income



GLOBAL PSA TAPES INDUSTRY STUDY,  
SOURCE: FREEDONIA, published October 2016

PSA Tape Sales Non-PSA Tape Sales

Supply/ Production

# DETAILS PER REGION

Details per region

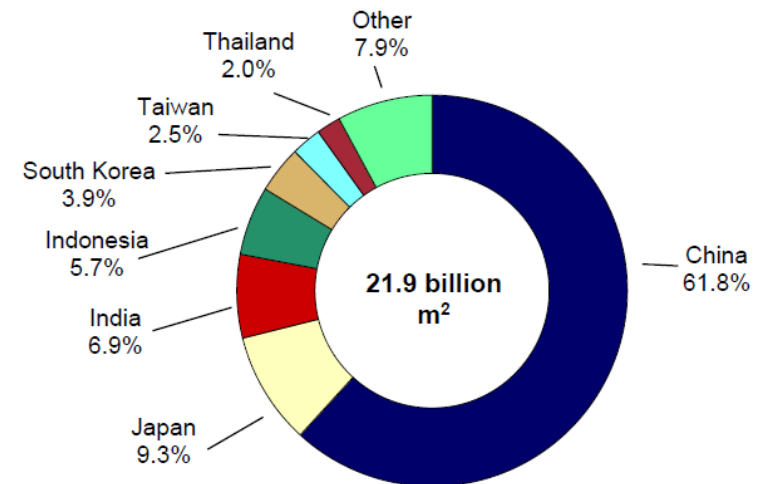
# ASIA PACIFIC

# ASIA PACIFIC

- Demand is expected to increase 5.3% p.a. to 28.3bn m<sup>2</sup> in 2020, i.e. > 50% of global market
  - While this represents a deceleration from previous periods (largely due to slowing economic growth in China), gains will remain robust by global standards
  - CST > 70%

ASIA/PACIFIC: PRESSURE SENSITIVE TAPE DEMAND BY TYPE & MATERIAL (million square meters)					
Item	2005	2010	2015	2020	2025
World Pressure Sensitive Tape Demand	27415	34725	43325	53400	64750
% Asia/Pacific	38.5	46.9	50.4	53.0	54.5
Pressure Sensitive Tape Demand	<u>10546</u>	<u>16300</u>	<u>21850</u>	<u>28285</u>	<u>35295</u>
By Type:					
Carton Sealing	7650	11912	15767	20280	25105
Masking	688	1083	1588	2063	2630
Electrical & Electronic	559	786	994	1231	1451
Double-Sided	342	536	731	1048	1413
Medical	156	231	317	411	534
Other	1151	1752	2453	3252	4162
By Material:					
Polypropylene	6465	10300	13945	17865	22060
Paper	1521	2127	2667	3445	4286
PVC	623	967	1291	1775	2309
Other	1937	2906	3947	5200	6640

ASIA/PACIFIC:  
PRESSURE SENSITIVE TAPE DEMAND BY COUNTRY, 2015



Details per region

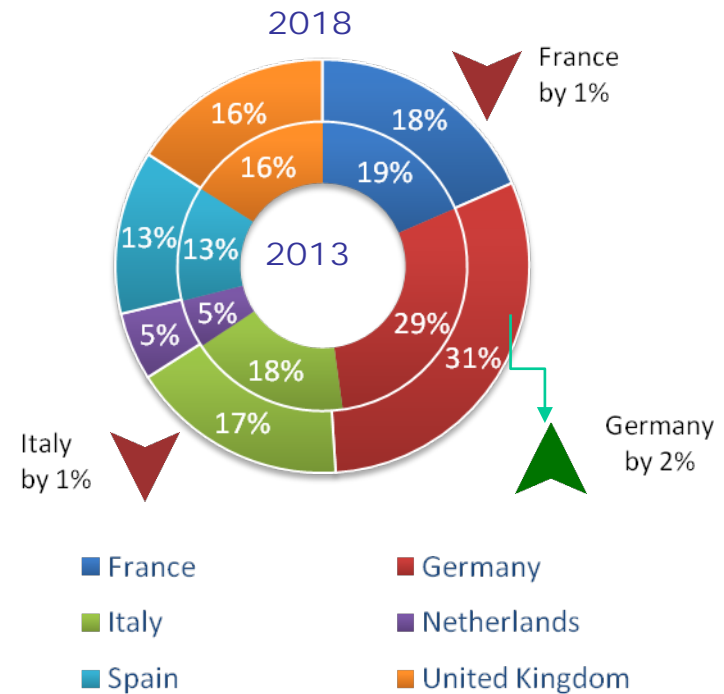
# WESTERN EUROPE

# WESTERN EUROPE – YESTERDAY

- Regional tape production will rise a modest 1.2% annually to 6.3bn m<sup>2</sup> in 2018.
- Italy will remain the largest regional producer.

## Market Trends

- Western Europe will have the market edge with specialty tapes.
- Solvent – based adhesives will continue to be replaced by environmentally, waterborne and hot melt types.



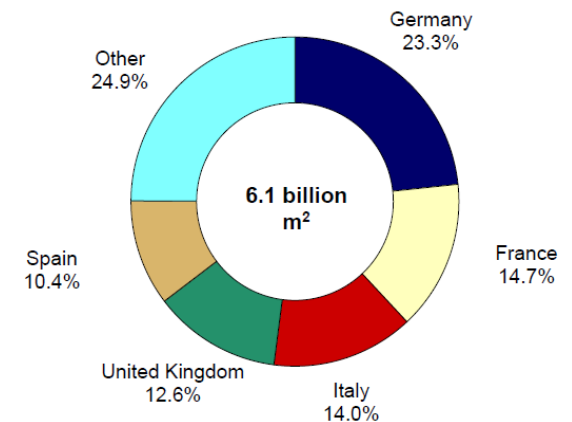


# WESTERN EUROPE - TODAY

- Demand is expected to increase 2.2% p.a. to 6.8bn m<sup>2</sup> in 2020; ~ 13% of market
  - While anticipated growth is well below global average, it will present a significant improvement over previous periods in which growth barely exceeded 1%
  - CST ~ 60%

WESTERN EUROPE: PRESSURE SENSITIVE TAPE DEMAND BY TYPE & MATERIAL (million square meters)					
Item	2005	2010	2015	2020	2025
World Pressure Sensitive Tape Demand	27415	34725	43325	53400	64750
% Western Europe	20.0	16.4	14.1	12.7	11.6
Pressure Sensitive Tape Demand	<u>5496</u>	<u>5706</u>	<u>6090</u>	<u>6805</u>	<u>7540</u>
By Type:					
Carton Sealing	3650	3720	3908	4285	4665
Masking	530	558	612	715	825
Electrical & Electronic	246	236	233	250	261
Double-Sided	282	305	341	404	467
Medical	150	190	234	295	362
Other	638	697	762	856	960
By Material:					
Polypropylene	3005	3200	3430	3815	4160
Paper	854	889	956	1073	1193
PVC	635	518	448	446	467
Other	1002	1099	1256	1471	1720

WESTERN EUROPE:  
PRESSURE SENSITIVE TAPE DEMAND BY COUNTRY, 2015



# 4. PSA TAPE MARKETS

# PSA TAPE – MARKETS

- Global **motor vehicle production** is expected to grow 3.5% p.a. reaching > 100m units by 2020. While vehicle output fell in some major countries like Brazil & Japan, this was more than offset by gains in markets such as North America and the Asia/Pacific region
- World expenditures on **building & construction** are projected to expand 3.6 % p.a. through 2020; More than 55% of global expenditures in AP (China = 36%); Expenditures almost evenly distributed between residential and non-residential building sectors
- Global demand for **electrical and electronic tapes** (excl. d/s tapes) is expected to grow 3.8% p.a. reaching a total volume of 2.3bn m<sup>2</sup> in 2020; For electronic types, gains will be fueled by markets such as computer and personal digital equipment and by the fast pace of new product development
- World demand for **medical tapes** is expected to **grow 4.9% p.a.** reaching a total volume of 1.4bn m<sup>2</sup> in 2020; Medical Tapes include: Surgical tapes, Medical equipment tapes, sports medicine tapes, Athletic tapes
- World demand for **double-sided tapes** is expected to **grow 5.7% p.a.** reaching a total volume of nearly 2.5bn m<sup>2</sup> in 2020; While these tapes account for a small share of market volume only, they occupy a **much larger share of the market in value terms; their higher performance, more complex construction and a greater variation in adhesives used make them significantly more costly than most single-sided tapes**

# PSTC MARKET RESEARCH

- In an effort to provide further value and support new opportunities for our members, the PSTC Board of Directors allocated funds from the strategic reserve to commission a market research study by partnering with TRC Advisory and Brakethrough Research.
- **Key objective: identify top opportunity areas for "growing the pie" for pressure-sensitive tape.**
- The end goal of this research initiative is to identify the largest pockets of "headroom" for conversion to pressure-sensitive tape from competing solutions...

The objectives included:

- UNDERSTAND the decision drivers that are influencing current specification and usage of different bonding solutions
- ASSESS the key barriers to converting usage of other bonding solutions to PSA Tape
- IDENTIFY the industries and applications that are most likely to convert

# AFERA MARKET RESEARCH

How about:

- NETWROKING – with key suppliers

Make good use of the Afera!

THANK YOU



GLOBAL PSA TAPES INDUSTRY STUDY,  
SOURCE: FREEDONIA, published October 2016

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Promoting the Interests of the Self Adhesive Tape Industry