# AKSA AKRILIK KIMYA SANAYI

## November 2012

# AKKOK INDUSTRIAL INVESTMENT & DEVELOPMENT INC.

## Akkok Group Companies

**CHEMICALS**

AKSA, AK-KİM, DOWAKSA

**ENERGY**

AKENERJİ, SEDAŞ,EGEMER

**TEXTILES**

AK-TOPS, AKSA EGYPT

**REAL ESTATE DEVELOPMENT**

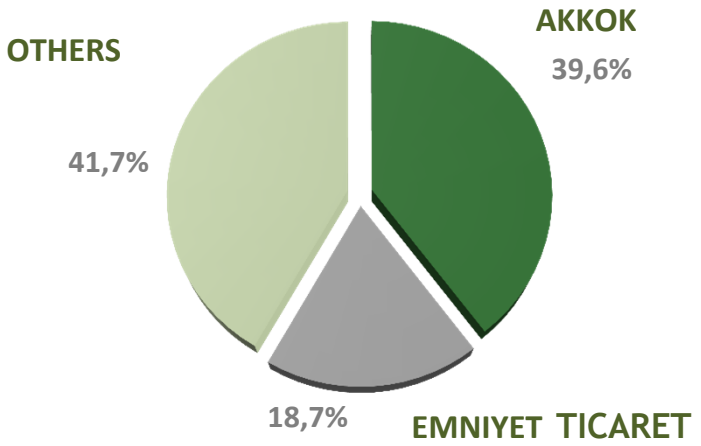
AKMERKEZ, AK TURİZM, AKİŞ, SAF GYO

**OTHER SERVICES**

AK-PA, DİNKAL, AKPORT, AKTEK,

AKMERKEZ LOKANTACILIK (Paper Moon)


| AKKOK (Million US$) | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Net Sales | 1.337 | 1.514 | 2.166 | 2.675 | 2.900 |
| Export | 346 | 326 | 332 | 417 | 458 |



# Main Strategies


- Operational excellence
  - Icreasing Productivity
  - Cost Reduction
  - Reliable Quality and Service
- CRM
- Sustainable Profitability

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- Producing high quality and reliable energy with cost effectiveness

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- Development of R & D capabilities in terms of operational excellence
- Identifiying of new business areas

# STRATEGIC BUSINESS UNITS of AKSA

## STANDARD ACRYLIC FIBER BUSINESS UNIT

- Largest acrylic fiber producer under one single roof in the world;
- 14 % global market share;
- Turkey's sole local producer having 67% local market share.

## TECHNICAL FIBERS BUSINESS UNIT

- High value-added products / Develop fibers for technical end-use areas;
- 50% global market share in outdoor fibers


## ENERGY BUSINESS UNIT

- Acquired 60 Mwe capacity Natural Gas power plant from Akenerji in 2009.
- 100 Mwe capacity dual gas power generation plant;
- 42,5 Mwe natural gas

# FIBERS

# WHAT IS ACRYLIC FIBER?

**Acrylic fibre is a synthetic fibre that highly resembles wool,**

Wool (natural fiber)

Acrylic Fiber (synthetic fiber)

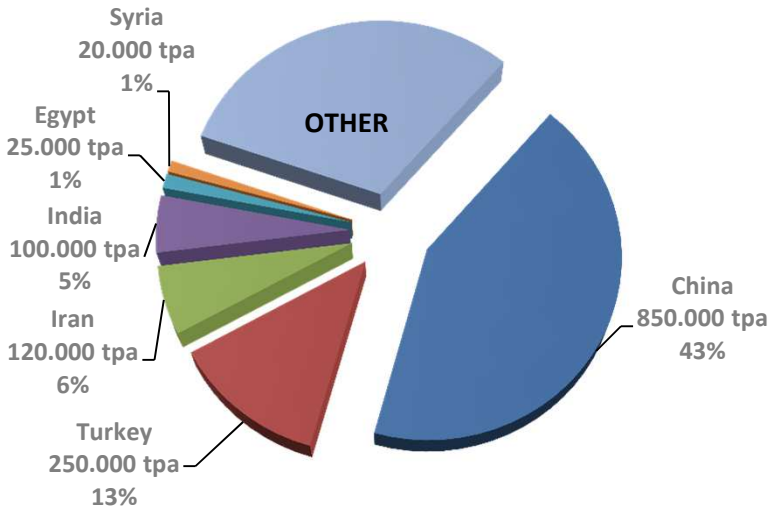
- Used in blends with natural and other synthetic fibers or by themselves,
- Easily washed and keep dimensional stability/resistant against sunlight & chemical substances,
- Dyed in brilliant colours,
- Natural and warm appearance and touch.

# ACRYLIC FIBER SECTOR IN BRIEF

*Acrylic fiber market accounts for 2 million tonnes in 2012. The global demand for acrylic fiber in 2020 is expected to be around the same level as 2 million tonnes.*

Biggest Consumption Market is China . During 2007-2010 shrank by 20% / adopts self sufficiency strategy/invests on new capacity no more.

Yearly average consumptions:




| 2012 | Production ('000 tonnes) | % |
|---|---|---|
| Asia+Pacific | 1.140 | 57 |
| Europe | 380 | 19 |
| Middle East | 69 | 3 |
| Turkey | 285 | 14 |
| USA | - | - |
| Africa | - | - |
| South America | 116 | 6 |
| Toplam | 1.990 | 100 |

Sector has average 90% of capacity utilisation rate. Europe accounts for excess capacity.

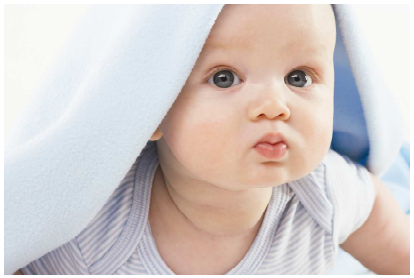
Far East balanced capacity and demand,

Shut downs (Europe, USA, Far East…) and consolidations have taken place for last 10 years.

# HAVING 42 YEARS OF EXPERIENCE IN ACRYLIC FIBER INDUSTRY...

- Leader in Turkey and in international markets in terms of capacity, size, pre-and post-service quality, product diversity & flexibility;
- Low cost leader;
- Production capacity : 308,000 ton/year;
- Capacity Utilization Rate:86% in 2010, 93 % in 2011, 98% in Q32012

## SUCCESS THAT COMES FROM A DIVERSITY OF PRODUCTS...



**Major Acrylic Fiber Uses;**

Apparel

Home Textiles & Furnishings

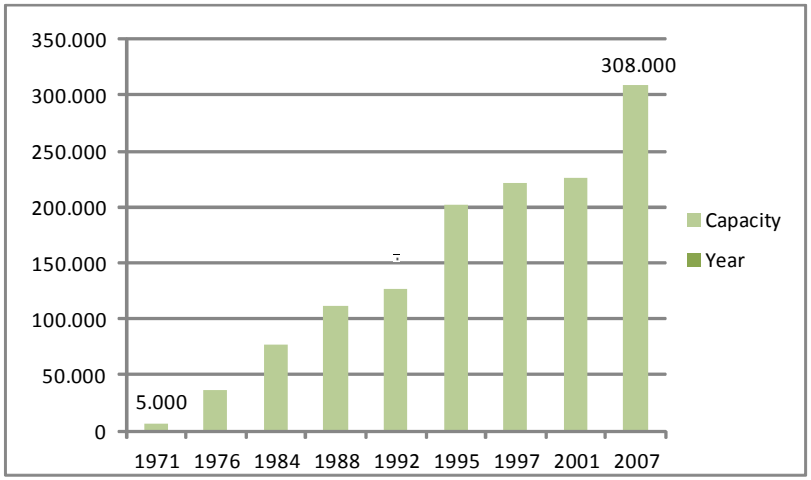
Industrial Uses

# AKSA's Development Over 40 Years

AKSA 1971
Initial Capacity 5,000tpa

AKSA Today
Capacity 308,000tpa

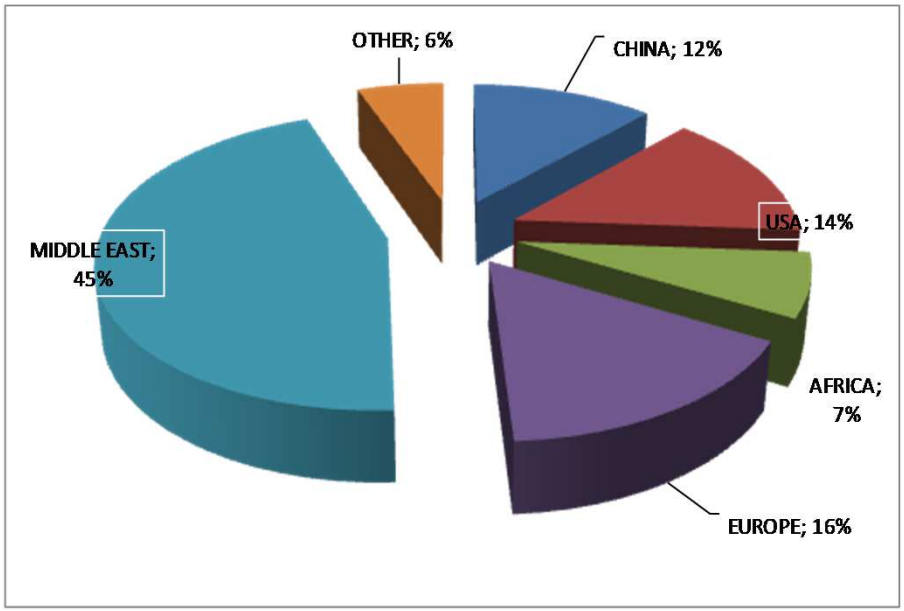
**AKSA PRODUCTION CAPACITIY (TON)**



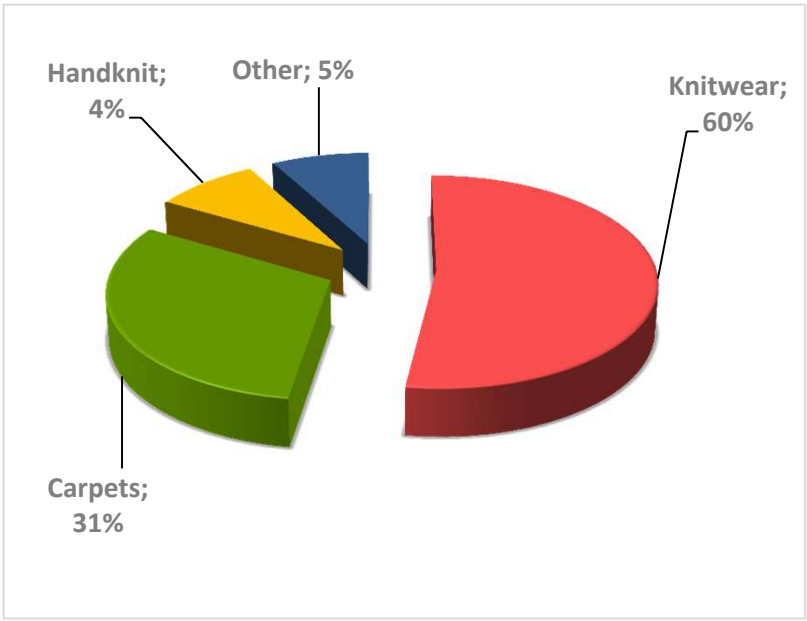

By the end of 2007, capacity reached 308,000 tpa.

# 2011 / SALES BREAKDOWN

## EXPORT SALES BREAKDOWN ( 2012/Q3 )




## DOMESTIC SALES BREAKDOWN ( 2012 )



# ACRYLIC FIBER INDUSTRY PLAYERS

- AKSA (TURKEY) / Production Capacity: 308,000 tpa
- MONTEFIBRE (SPAIN) / 95,000 tpa
- DRALON (GERMANY) / 188,000 tpa
- FORMOSA (TAIWAN) / 72,000 tpa
- THAİ ACRYLİC FİBRE (THAILAND)/ 120,000 tpa
- SHANGHAİ PETROCHEMİCALS (SPC) (CHINA) / 150,000 tpa
- DAQİNG PETROCHEMİCAL(CHINA) / 65,000 tpa
- JILIN (CHINA) / 120,000 tpa
- JIMONT (CHINA) / 100,000 tpa

There are 35 acrylic fiber producer in the world. Despite the total capacity of acrylic fiber producers 2.3 Million tons / year ,total production level is around 2 million tons. The capacity utilization rate in the sector is around 90%.

# GLOBAL PRODUCTIONS OF TEXTILE FIBERS

| | 1970 | 1980 | 1985 | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2025 | 2050 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Synthetic Fibers* | *8,4* | *14,5* | *16,5* | *19,0* | *22,5* | *32,1* | *31,7* | *33,9* | *35,5* | *38,0* | *38,2* | *41,3* | *44,5* | *42,6* | *43,9* | *46,2* | *48,0* | *63,6* | *97,2* |
| Polyester | | 0,0 | 0,0 | 0,0 | 0,0 | 19,1 | 19,2 | 21,0 | 22,3 | 24,4 | 24,7 | 27,8 | 31,1 | 30,7 | 32,0 | 34,0 | 36,0 | 50,0 | 80,0 |
| PP fibers | | 0,0 | 0,0 | 0,0 | 0,0 | 6,0 | 5,8 | 5,9 | 6,2 | 6,3 | 6,5 | 6,5 | 6,4 | 5,9 | 6,1 | 6,0 | 6,0 | 7,0 | 10,0 |
| PolyamidE | | 0,0 | 0,0 | 0,0 | 0,0 | 4,1 | 3,7 | 3,9 | 4,0 | 4,0 | 3,9 | 3,9 | 3,9 | 3,5 | 3,3 | 3,7 | 4,0 | 4,5 | 5,0 |
| Acrylics | | 0,0 | 0,0 | 0,0 | 0,0 | 2,7 | 2,6 | 2,7 | 2,7 | 2,7 | 2,6 | 2,5 | 2,4 | 1,9 | 2,0 | 2,0 | 2,0 | 2,1 | 2,2 |
| Other | | 0,0 | 0,0 | 0,0 | 0,0 | 0,3 | 0,3 | 0,3 | 0,4 | 0,5 | 0,5 | 0,6 | 0,6 | 0,6 | 0,5 | 0,5 | 0,0 | 0,0 | 0,0 |
| *Natural Fibers* | *16,9* | *19,8* | *24,7* | *22,9* | *24,3* | *28,4* | *27,6* | *28,9* | *28,6* | *30,6* | *33,2* | *34,6* | *35,9* | *33,4* | *31,1* | *32,8* | *33,3* | *41,4* | *52,8* |
| Cellulosics | *3,5* | *3,5* | *3,2* | *3,1* | *3,0* | *2,8* | *2,7* | *2,7* | *2,9* | *3,1* | *3,1* | *3,3* | *3,6* | *3,2* | *3,0* | *3,5* | *3,6* | *6,0* | *10,0* |
| Cotton | *11,0* | *14,0* | *19,0* | *17,0* | *19,0* | *19,7* | *19,8* | *20,6* | *20,1* | *22,0* | *24,4* | *25,7* | *26,7* | *24,5* | *22,5* | *24,0* | *24,5* | *30,0* | *37,0* |
| Wool | *1,7* | *1,7* | *1,7* | *2,0* | *1,5* | *1,3* | *1,2* | *1,4* | *1,3* | *1,2* | *1,2* | *1,2* | *1,2* | *1,2* | *1,2* | *1,1* | *1,1* | *1,0* | *1,2* |
| Hemp | | *0,0* | *0,0* | *0,0* | *0,0* | *4,0* | *3,1* | *3,2* | *3,2* | *3,2* | *3,3* | *3,2* | *3,2* | *3,3* | *3,3* | *3,2* | *3,2* | *3,0* | *3,0* |
| Linen | *0,7* | *0,6* | *0,8* | *0,7* | *0,7* | *0,5* | *0,6* | *0,7* | *0,8* | *0,8* | *0,8* | *0,8* | *0,8* | *0,8* | *0,8* | *0,6* | *0,5* | *0,8* | *1,0* |
| Ramie | | *0,0* | *0,0* | *0,0* | *0,0* | *0,1* | *0,2* | *0,2* | *0,3* | *0,3* | *0,3* | *0,3* | *0,3* | *0,3* | *0,3* | *0,2* | *0,2* | *0,3* | *0,3* |
| Silk | *0,5* | *0,1* | *0,1* | *0,1* | *0,1* | *0,1* | *0,1* | *0,1* | *0,1* | *0,1* | *0,1* | *0,1* | *0,2* | *0,2* | *0,2* | *0,2* | *0,2* | *0,3* | *0,3* |
| Total | *25,8* | *34,3* | *41,2* | *41,9* | *46,8* | *60,5* | *59,3* | *62,8* | *64,1* | *68,6* | *71,4* | *75,9* | *80,4* | *76,0* | *75,0* | *79,0* | *81,3* | *105,0* | *150,0* |
| *Population (billion)* | *3,6* | | | | | *5,8* | | | | | | | | | | | *7* | *8* | *9,5* |
| *Kg Fiber / person* | *7,0* | | | | | *10,3* | | | | | | | | | | | *11,6* | *13,1* | *15,8* |
| *Acrylic fibers/textile fibers (%)* | | | | | | *4,4* | *4,3* | *4,4* | *4,2* | *4,0* | *3,7* | *3,3* | *3,0* | *2,5* | *2,7* | *2,5* | *2,5* | *2,0* | *1,5* |
| *Acrylic fibers/Synthetic fibers (%)* | | | | | | *8,3* | *8,1* | *8,1* | *7,5* | *7,2* | *6,9* | *6,1* | *5,5* | *4,5* | *4,6* | *4,3* | *4,2* | *3,3* | *2,3* |

# COST STRUCTURE OF ACRLYIC FIBER

## The key cost component is the raw material Acrylonitrile

- Acrlyonitrile prices fluctuates depending on the oil prices and the demand –supply balance;
- 30% of ACN locally sourced from PETKIM, The rest is heavily imported from Europe / US.

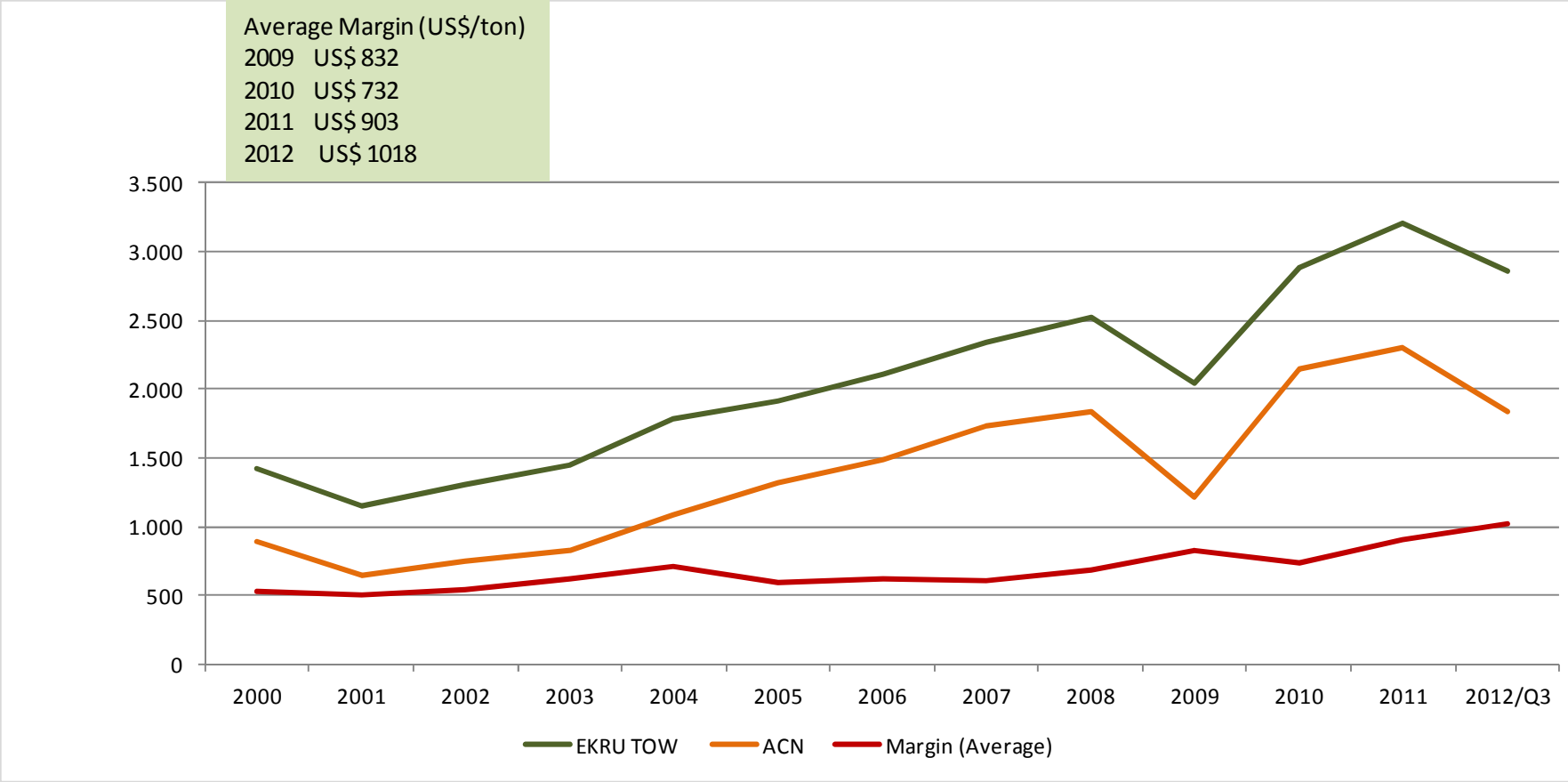
## The other important cost component is “The Energy”

- Continously improving energy specific consumption through investments;

## Labor Costs

- High rate of production per capita;
- Low labor rate compared to European competitors.

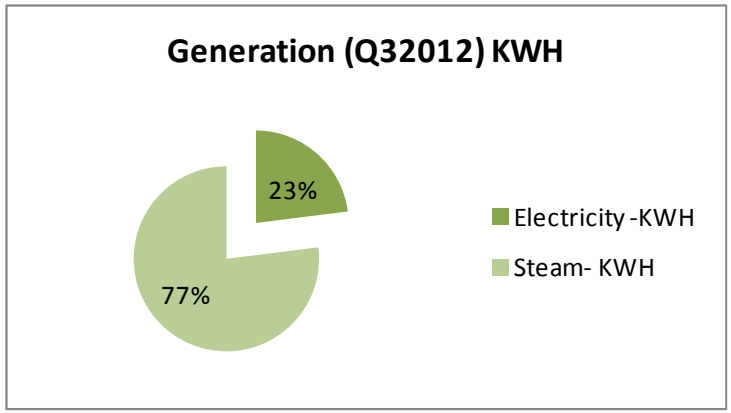
# ECRU TOW - ACN PRICE MARGIN (US$/ton)

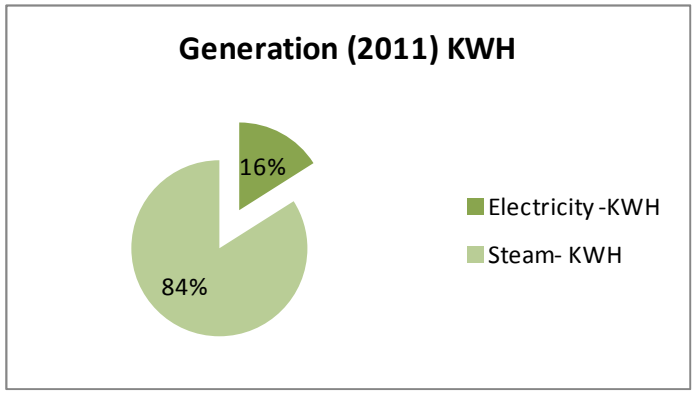


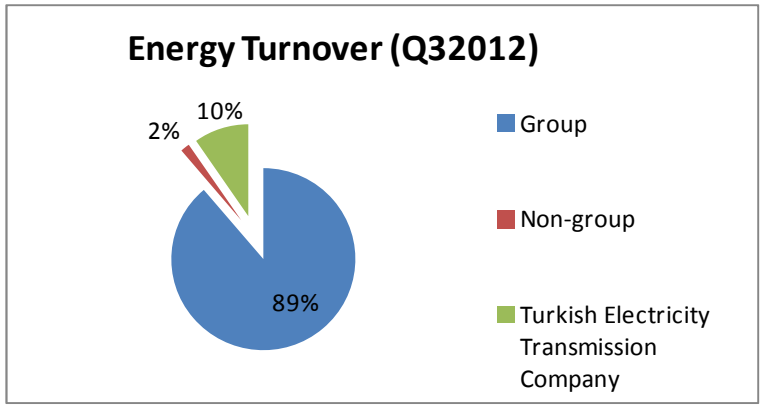

Source: PCI Average of US/Europe/Far East Prices

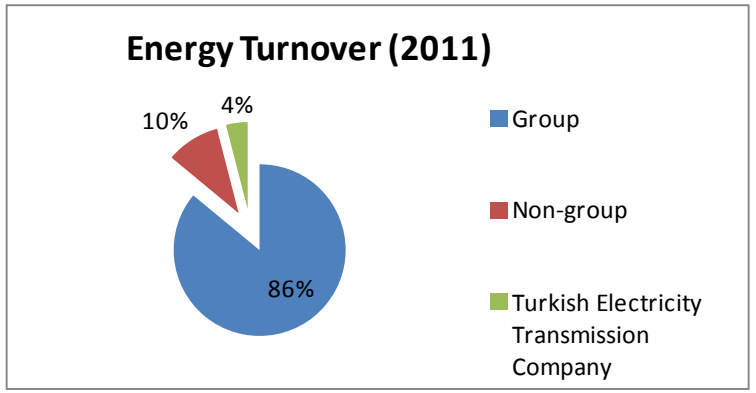
# ENERGY

# ENERGY GENERATION & TURNOVER



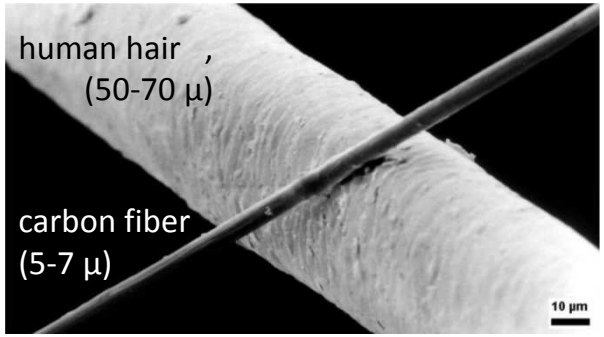




**Energy Turnover**
**US$ 38 million**

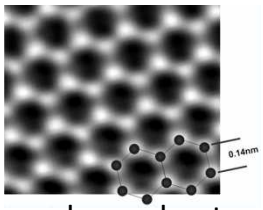
**Energy Turnover**
**US$ 28 million**

# CARBON FIBER

# WHAT IS CARBON FIBER?




a carbon fiber and a human hair
(source: wikipedia)

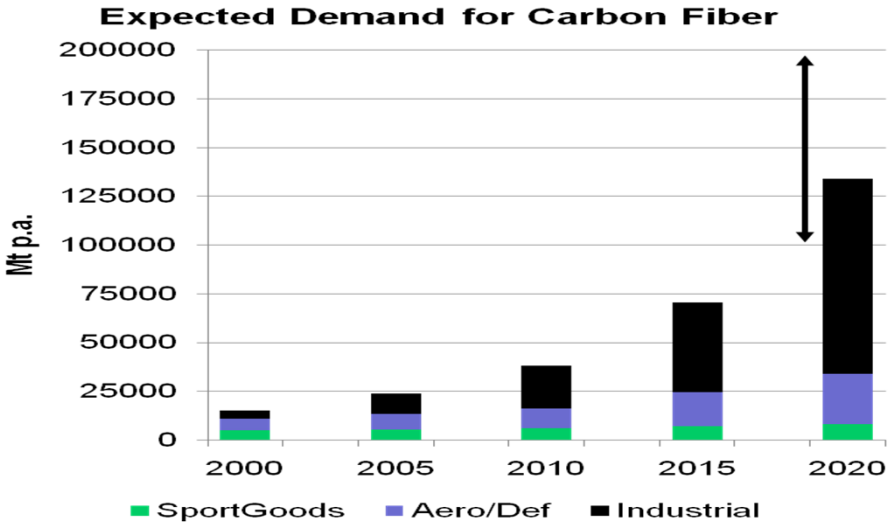



graphene sheet
(source: wikipedia)

"3k"
= 3,000
filaments

- Carbon fibers are extremely fine fibers (typ, 5-7 µ in dia,) consisting mostly of carbon atoms,
- Carbon fiber is >95% carbon,
- The structure of carbon fiber is similar to graphite: sheets of carbon atoms, arranged in hexagonal patterns, aligned along the axis of the fiber,
- Carbon fibers are produced in tows (yarns) ranging from 1,000 filaments (1k), to 3k, 6k, 12k, 24k, 50k, etc.

# EXPECTED GROWTH IN DEMAND FOR CARBON FIBER




Carbon fibre demand was around 20,000 tonnes in 2004,
The demand than doubled in the four years to 2008, We expect the market (currently 40,000 tonnes) to double by 2015 and double again by 2020.

Industrial Applications are expected to make up the majority of future demand.

| Market for CF | 2010 | 2015 | 2020 |
|---|---|---|---|
| Mt | 40 | >80,000 | ~150.000<br>(100.000-500.000) |
| Value | US$ 1,0-1,5 B | US$ 2-3 B | US$ 3-15 B |

**Industrial Apps**
**2010 vs 2020:**

**Wind:**
**5,000t → 15,000-50,000t**

**Compounding:**
**5,000t → 15,000-50,000t**

**Pressure Vessels:**
**3,000t → 15,000-50,000t**

**Autos:**
**2,500t → 20,000-100,000t**

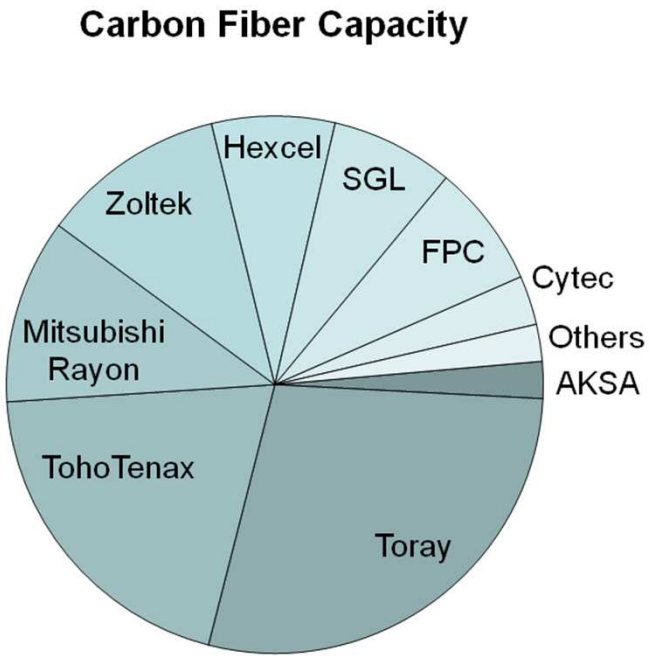
**Infrastructure:**
**2,000t → 5,000-25,000t**

**Others:**
**5,000t → 15,000-50,000t**

**Aerospace Apps**
**2010 vs 2020:**
**8,000t → 25,000-30,000t**

**Sports Goods**
**2010 vs 2020:**
**7,000t → 10,000-15,000t**

# THE "UN-MET NEED" FOR CARBON FIBER




**Market Research;**

- Carbon fiber has been available commercially since the 1970's,
- Demand has grown irregularly depending on new applications,
- Tight supply conditions have occurred every few years
- There appears to be an "un-met need" in the market for–high quality, reliably supplied, competitively priced carbon fiber

- With the world's largest plant producing acrylic fiber production under one roof,
- With 40+ years of know-how, own technology and experience in acrylic fiber and specialty technical fibers,
- With the resources and ability to develop PAN precursor and carbonization technology in house,
- With the resources to facilitize to produce PAN precursor and carbon fiber,

***AKSA decided to develop PAN precursor and enter the carbon fiber business.***

# LONG-TERM MAIN GOALS

- Generate at least US$1-1,2 billion sustainable revenues,
- Sustain EBITDA Margins around 12-13%,
- Maintain capacity utilization and low-cost leadership through cost saving projects and economies of scale,
- Develop new technical fibers to create added value and end-use areas except textile industry.

# DEVELOPMENTS DURING 2012

- Aksa Karbon Elyaf San. A.Ş. is established by partial spin off as of 2 January .

- First phase of new co-generation power plant is successfully activated as of March.

- Dividend payments amounting to USD 25.000.000 have been completed in May.

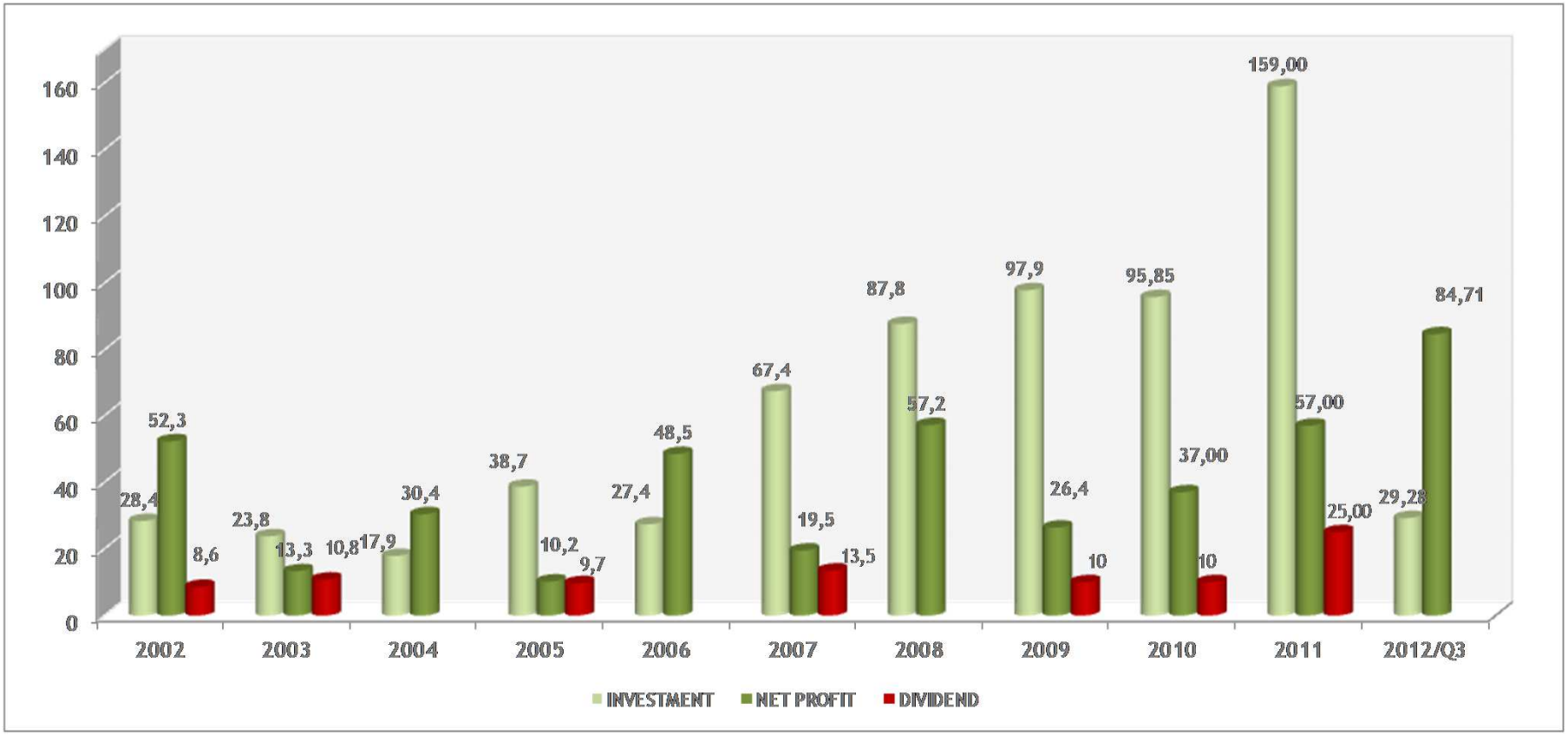
- Establishment of 50%-%50% joint venture company for carbon fiber operations is finalised with Dow Europe (50% of equity value is 185 mio USD) as of 29 June.

# BUDGET FIGURES

| | | 2012 Forecast (*) (mio) | 2013 Budget (mio) |
|---|---|---|---|
| **Net Sales** | | **US$920-975** | **US$820-840** |
| | AF | US$760-785 | US$700-720 |
| | Tecnical Fibers | US$60-64 | US$65-70 |
| | Energy | US$50-53 | US$60-65 |
| **Exports** | | **US$300-320 Million** | **US$260-280 Million** |
| AF CUR | | %92-%96 | %90-%93 |
| **EBITDA margin ~** | | **12%** | **12%** |
| CAPEX | | US$60-65 | US$75-85 |

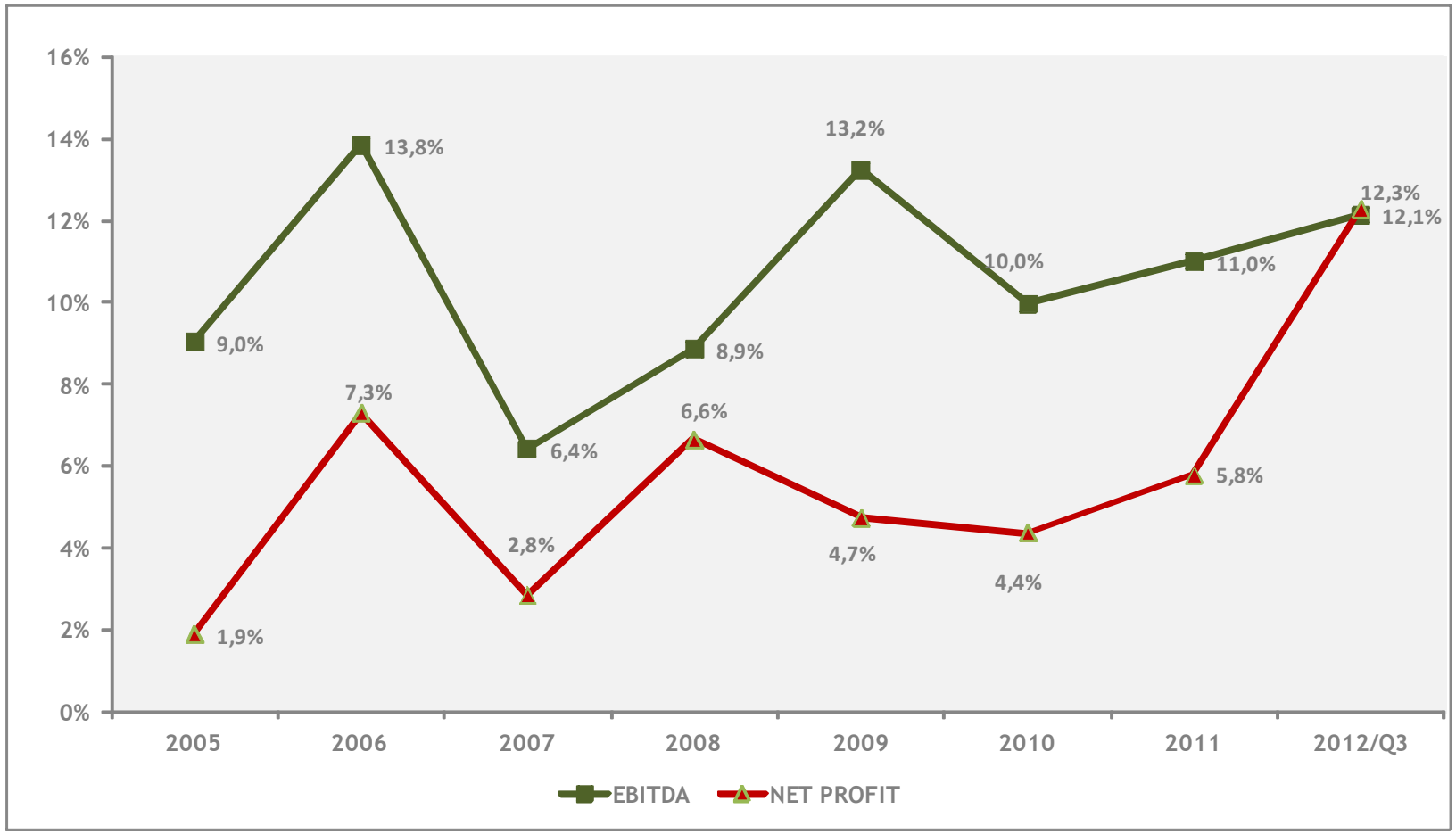
(*) Nine months actual

# NET SALES & EXPORT (FOB)
# (USD mio)



# EBITDA - NET PROFIT
# (USD mio)

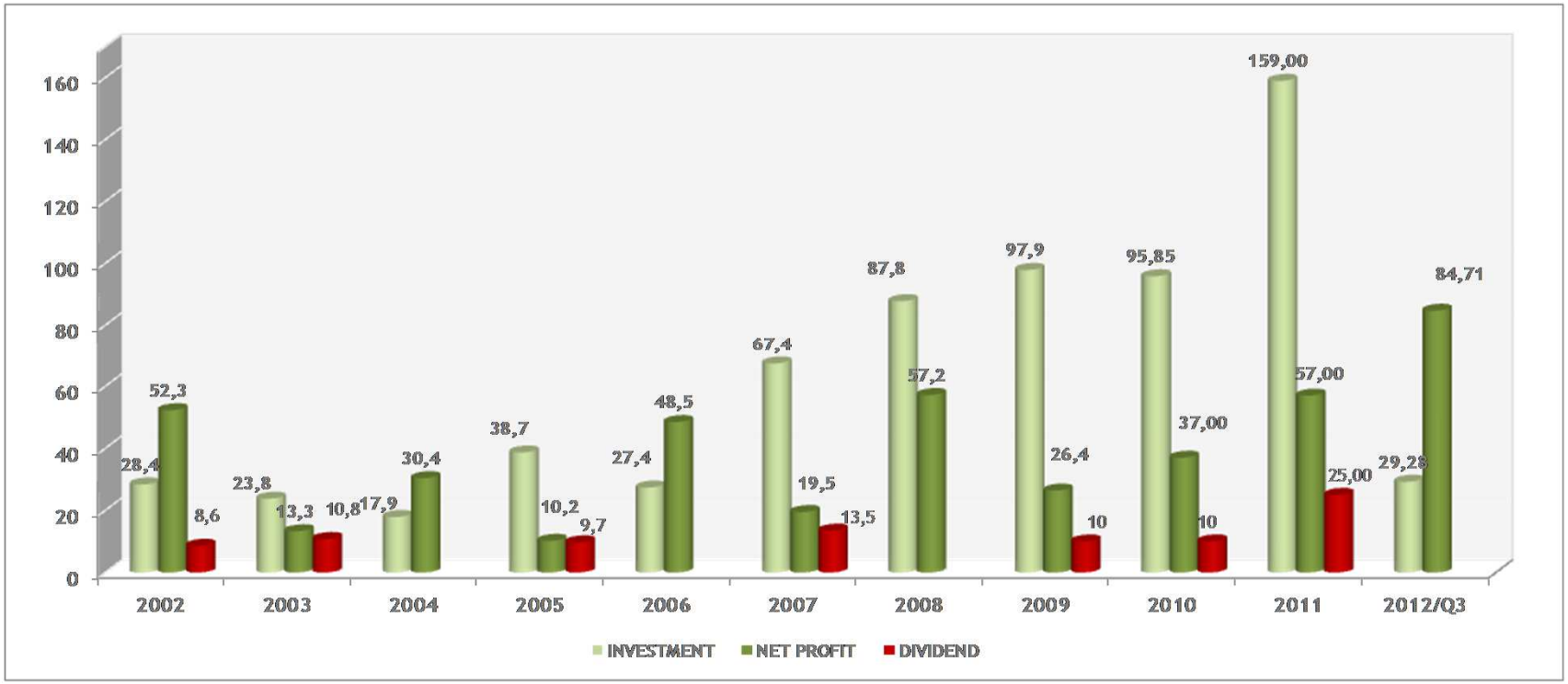
# EBITDA - NET PROFIT
# (%)



# INVESTMENT-PROFIT-DIVIDEND

2002-2012/Q3:

- Total Investment : US$ 660,8 mio USD
- Total Net Profit : US$ 415,6 mio USD
- Total Dividend : US$ 87,6 mio USD



# SUMMARY INCOME STATEMENT

| Income Statement ('million USD) | 2008 | 2009 | 2010 | 2011 | 2012/Q3 |
|---|---|---|---|---|---|
| NET SALES | 678 | 556 | 851 | 978 | 690 |
| EBITDA | 60 | 74 | 85 | 108 | 84 |
| NET PROFIT | 45 | 26 | 37 | 57 | 85 |

# BALANCE SHEET

| Balance Sheet ('000 US$) | | 2008 | 2009 | 2010 | 2011 | 2012/ Q3 |
|---|---|---|---|---|---|---|
| **ASSETS** | | **707.481** | **808.967** | **836.241** | **874.882** | **883.053** |
| Current Assets | | **376.237** | **390.652** | **388.060** | **406.678** | **401.405** |
| | Liquid Assets | 26.685 | 64.003 | 36.832 | 45.056 | 37.151 |
| | Receivables | 264.282 | 218.251 | 211.656 | 212.450 | 195.114 |
| | Inventories | 63.738 | 73.592 | 88.627 | 101.316 | 127.033 |
| | Other | 21.532 | 34.806 | 50.945 | 47.857 | 42.107 |
| Long Term Assets | | **331.244** | **418.316** | **448.181** | **468.204** | **481.648** |
| | Long Term Trade Receivables | 8.375 | 7.792 | 6.179 | 569 | 2.649 |
| | Financial Assets | 17.945 | 18.024 | 17.554 | 733 | 744 |
| | Joint Venture Investments | - | - | - | - | 130.382 |
| | Tangible Assets | 281.527 | 353.984 | 416.635 | 444.129 | 333.828 |
| | Intangible Assets | 128 | 4.393 | 3.344 | 11.333 | 2.605 |
| | Other Long Term Assets | 23.269 | 34.123 | 4.469 | 11.441 | 11.441 |
| **LIABILITIES** | | **707.481** | **808.967** | **836.241** | **874.882** | **873.597** |
| Current Liabilities | | **158.370** | **209.146** | **227.168** | **229.220** | **242.609** |
| | Financial Liabilities | 66.719 | 87.856 | 85.478 | 91.580 | 85.051 |
| | Trade Payables | 75.029 | 109.854 | 134.669 | 133.815 | 153.733 |
| | Derivative Financial Instruments | 1.362 | - | - | - | - |
| | Other Short Term Liabilities | 15.260 | 11.436 | 7.021 | 3.825 | 3.825 |
| Long Term Liabilities | | **100.070** | **121.144** | **117.949** | **195.163** | **96.761** |
| | Financial Liabilities | 80.070 | 91.253 | 90.108 | 169.540 | 82.363 |
| | Trade Payables | - | 1.697 | - | - | - |
| | Derivative Financial Instruments | 3.098 | 2.515 | 3.234 | 2.210 | 1.381 |
| | Provisions for Debt and Expenses | 4.923 | 6.306 | 7.218 | 7.528 | 7.890 |
| | Deferred Tax Liabilities | 9.044 | 9.478 | 8.679 | 9.096 | 4.728 |
| | Other Long Term Liabilities | 2.934 | 9.895 | 8.709 | 6.788 | 399 |
| **Shareholders' Equity** | | **449.041** | **478.677** | **491.124** | **450.499** | **534.226** |

AKSA


**THANK YOU**

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