*Joining Chemistries*

# Turkey

## profile


# Introduction

## chemicals in turkey: Bridging the Gap?

On the threshold of Europe, Turkey, with a population of 70million and a dynamic economy, is trying to move ahead and forget about the political instability, economic crisis and other ordeals that have plagued the country over the last two decades. The advent of a one party majority under the leadership of Prime Minister Recep Tayyip Erdogan was the signal that the country had eagerly awaited for to press ahead with the necessary economic and political reforms required by the EU to start accession negotiations. Two years on, Turkey has reformed a large number of fundamental socio-economic parameters, curbed the 15 years of insurgency in the East and has granted renewed rights to its Kurdish minority. The European Commission has advised in favour of the start of discussions for the accession of Turkey to the EU and in December, a formal date is expected to be set for the process to begin. Turkey is now waiting for the decision that will sustain the momentum of its ambitious reform agenda and shape its destiny for the next decades.

Since the massive financial crisis in 2001, Turkey has strengthened its economy, displaying robust growth(2003: 5.8%), enjoying double digit increases in industrial output indicators and expanding exports throughout the world, with, for instance a 30.5% increase year on year in 2003 for a total amount of $47 billion. Now the largest exporter of textile products in Europe, Turkey has also consolidated its credentials as a car manufacturer, a metal producing country, an agricultural powerhouse and a tourism destination of choice. The international investment community is finally recognising these credentials. According to recent predictions by the Institute of International Finance (IIF), as much as 60% of the portfolio equity that flows into Europe's emerging markets will target Turkey next year. Meanwhile, on the back of the country's good economic performance and the progress in its privatization process, Turkey is expected to attract $2.8bn of foreign direct investment (FDI) in 2005, with $2.4bn expected to be achieved by the end of 2004; this after years of abysmal performances. Yet, since the 1980s, the Turkish government has followed liberal, out-ward-oriented economic polices, shaking up the economic and social structure of Turkey. Deregulation of interest rates, the establishment of organized markets for money, foreign exchange and securities, the liberalization of capital movements and reform of the banking sector were just some of the changes. The FDI framework has also recently been simplified and Turkey continues to make a lot of effort to promote itself as a safe and sound investment destination. The incentive scheme is currently being dusted off and a strong PR campaign has been initiated to raise the profile of the country towards the global investment community.

Serving the many industries of Turkey, the domestic chemical industry is also expanding steadily and has started to attract foreign investments too. From the early days of import substitution policies in the 1960s through to the ultra aggressive export promotion policy of Prime Minister Turgut Ozal in the 1980s, the chemical industry has played a key part in the country's industrial development and is today integrated into the supply chain of national industries especially, textiles and the automotive sector, while also scoring the occasional export sale in a region where Turkey is both a gateway and an almost compulsory point of transit. The industry achieves an overall turnover of $18-20 bn yearly. Domestic production totals $11 bn, with imports of $9 bn to top up the bill, and chemical products exports reach $1.5bn, or $3.5bn including intermediaries.

The industry, employing 50,000 people across 6,000 Small and Medium Enterprises, is a key component of the Turkish industry, both from the perspective of its relative size and importance for the economy, and as a part of the overall Turkish supply chain and industrial fabric. It has gone from strength to strength. W ith direct access to Iran and Iraq, and constituting a major transit point for Russian hydrocarbon products as well as benefiting from long-standing trade partnership with the EU notably based on a

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cover picture: span across Europe and Asia, Turkey is a meeting point.
Credit: Yaz Yazicioglu 2004

Customs Union, Turkey has a solid tradition of international trade. The chemical industry, mainly inward looking in the past, is today increasingly raising its global profile and ambitions.

As a key contact point between Asia and Europe, the Middle East and Central Asia, Turkey is poised to be a logistical center of choice. For years, insufficient port capacities, the lack of rail infrastructure and bad roads have hampered this potential. Today, things are changing. Private sector initiatives, an increase in demand for state of the art logistical solutions and further potential for growth leave ample room for more development in the logistics segment. (See Logistics)

The Turkish chemical industry is fragmented, with over 6,000 companies in the sector, of which 90% are SMEs and only 150 large scale enterprises, with 60 companies making up 65 % of the sector's revenue. The main companies of the sector are state-owned refining and petrochemical producers Tüpras and Petkim. The two companies share a common destiny, as both have been on the privatisation list for years and have experienced stalled attempts on more than a few occasions. Providing up to 84% of the country's needs in refined petroleum products, Tüpras is also a producer of petrochemical products. Petkim is the major petrochemical producer of Turkey, feeding 30 % of the Turkish demand. This leaves ample room for imports of plastics and the market absorption capacity is decidedly on the rise on the back of consumption increases in the automotive and home appliances industries. The privatization of Petkim, with a

first phase expected to be completed by mid-2005, is also widely anticipated by the sector at large and by the international investment community. (See Petrochemicals and Privatization)

Meanwhile, heavy and specialty chemicals, although not huge in terms of the scale of production, makes it up in style. Small to medium size private producers are fueling the sector with dynamism and ambition and enjoy the benefits of a huge domestic market featuring increasing consumption levels. Their story is also that of Turkish entrepreneurs in general, learning to cope with the uncertainties and the instability that have plagued the country's economy for two decades. This difficult environment gave birth to a wealth of forward-thinking companies that provide Turkey with a good production base which can easily nurture further investment in production capacities. ( See Alchemy for success) Paint makers notably account for some of the most dynamic operators in the country, and have attracted much foreign attention. (See Paints)

The country is also host to a buoyant pharmaceutical industry that has prospered servicing the national health system. Now facing the tightening of margins due to the ongoing painful reform of the social security system and the raging competition brought to the market by international drug-makers, the local players are turning to international markets for breathing space. Local competencies are proven, but major markets like the United States aren't easy to penetrate. Here again, Turkish manufacturers are striving to reach international standards and reinforcing their presence on global markets. (See Pharmaceuticals in Turkey: strong remedies required)

All in all, the country has gone through a stunning transformation since the last financial crisis 3 years ago. Once a country wrought with constant economic meltdowns, the new political and economic stability of today means that managers no longer have to concentrate on crisis management, but can concentrate on day to day management and future strategy. Although by no means in the clear, the early indicators are that real progress has been made and the chemical sector is one of the sectors that has really benefited from Turkey's renewed strength.

# Pharmaceuticals in Turkey: strong remedies required

*The predominantly generics-focused pharmaceutical producers of Turkey face stiff challenges both at home and abroad. For the largest domestic players in particular, times are changing. On the home front, the generic manufacturers' biggest customer, the Turkish state, is in the process of consolidating three social security models and is imposing tight price controls on drugs. When playing away, Turkish pharmaceutical companies see differentiating themselves from the competition as the major challenge. Will the hurdles abroad prove easier to master than the troubles at home?*

### *Big fish in a small pond*

The Turkish pharmaceutical market is relatively small compared to the sheer size of the country and its population (more than 70 million) at around US$3.7bn of sales in 2002 at consumer prices. It is a sad acknowledgement of the past weakness and caution of the Turkish pharma industry that the names of its largest players: Abdi Abrahim, Bilim, Eczacibasi or Mustafa Nevzat, do not resonate much with western consumers, nor with the global industry. After all, time was on their side: most of the major players in the pharma sector were established concurrently with the birth of the Republic in the early twenties and this duration and maturity should have led them to exert a natural lead over Indian and East European newcomers to the generics market. Yet, today, Turkey is still lagging well behind its true potential. It relies, for instance, heavily on imports from European producers to fuel its demand for biotechnology products and intensive medicines like anti-cancerous drugs and hormones and achieves relatively low levels of exports sales. For instance, in 2003, 2.4bn dollars of imports were to be compared with 246m dollars worth of exports. These exports, initiated in the late 1970s, first reached Middle Eastern and North African countries, before being redeployed in the 1990s towards the Russian Federation, Azerbaijan, Germany, Holland, Austria, Switzerland and Belgium.

Turkish manufacturers have put a lot of efforts into cGMP-GLP standards compliance. Shown here are the facilities of MN pharmaceuticals.

Despite selling products to these highly demanding markets, Turkey still appears to punch well under its potential weight both at home and abroad. The explanation for the local manufacturers failure to take the initiative resides both exogenously in the economic troubles that have continually beset Turkey, in the governments failure to offer the kind of incentives used elsewhere in developing countries to nurture the pharmaceutical industry and also in the companies' own lack of desire to expand beyond a market which did not recognize patents until 1997 and thus provided easy pickings for generics players. But a revolution in attitudes is underway. As Dr. Cengiz Sezen, Chairman of Mustafa Nevzat strongly affirms: "the export business is today the major hope for local companies." And within that ray of hope, one particular export market shines extremely bright for all the major players as one player, Bulent Karaagac, President of Bilim, wryly observes : "The US is the logical choice for exporters. After all, that's where all the money is." All of the Turkish players are hopeful that investments in the US and western markets will prove fruitful in the long term. Their analysis is based on sound reasoning: the prospect of many patents expiring in the US market over the next 3 to 5 years. The competence displayed by Turkish pharmaceuticals producers in meeting FDA standards means that this hope is a realizable aim. Yet what differentiates these potential new entrants to Western markets from other generics producers?

Raising standards to European levels, should certainly give the Turkish pharmaceuticals industry an advantage. Added to this are ambitious production capacity expansions set to raise the profile of Turkish companies. In 2003, Good Manufacturing Practice and Good Laboratory Practice investments totaled 37.5m dollars out of a total investment effort of 84.8m dollars across the sector. The total figure is very low and it is reckoned by the Turkish Pharmaceutical Manufacturers Association that a minimum of 100m dollars yearly investment effort is necessary to allow the industry to sustain its competitiveness. Yet some take this task very seriously.

At MN pharmaceuticals, one of the leading integrated generic manufacturers of Turkey, $63m were invested over the past four years, both on the manufacturing of Active Pharmaceutical Ingredients and on the finished dosages, under cGMP standards. This year, the envelope is 6m, completed by a further 10m capital expenditure in 2005. Abdi Ibrahim and Bilim are also in the midst of ambitious expansion plans with Abdi Ibrahim set to further expand their state of the art production facility and Bilim ready to build a new plant in the Istanbul region. Meanwhile, Deva, another pharma maker with its own API manufacturing facilities is also nurturing a full cGMP-compliant facility outside of Istanbul, with the clear objective of making it an argument of weight in any future cooperation with a potential US Partner. "We prefer to go to the FDA with an American company, and our preference is for a contract manufacturing joint venture here in Turkey, starting from the APIs we already produce. This integration gives us competitive advantages on price and quality control" underlines Dr Umran Uzbek, Managing Director of Deva Holding.

Excellent standards and ultra-modern facilities aside, all companies point to their credibility built up by long-term co-operation with foreign partners. Eczacibasi, a versatile industrial group, has a web of alliances with over 30 foreign partnerships in many domains of production and has for instance struck a contract manufacturing deal with US-based IVAX. Others think it is longevity and quality that counts more than quantity. MN Pharmaceuticals, recently rebranded, has a long-standing relationship with Eli Lilly that has withstood 50 years: "some marriages don't last that long" jokes Dr. Cengiz Sezen, MN's Chairman of the Board "and we're always open to foreign partners who see our specialization and appreciate our expertise in injectables." Adbi Ibrahim, through a combination of chance and design has also allied with foreign firms, but of the medium, regional size rather than mighty multi-nationals. Its alliance with the Korean pharmaceuticals bit-player, LG Pharmaceuticals is the latest in a long list of strategic partnerships. When questioned as to why allying with smaller fish was advantageous, Erman Atasoy, CEO of Abdi Ibrahim smiles and puts it simply "we feel that these companies are not threats to our domestic position – they don't have the scale to enter this market so it's beneficial for us and we provide the access they need."

***Caught in licensing nets?***

Reading between the lines of what Mr. Atasoy highlights, it is clear that a significant potential danger for Turkey's generics producer is over-reliance on an alliance with a single particular Pharma giant. The potential for dependency is most striking in licensing agreements which leave the domestic producer with the risk of their foreign partner upping and leaving. Mr. Atasoy's strategy of allying with smaller players is one way of getting around the 'loving and leaving' risks inherent with multi-national partnership. Another is that pursued by MN Pharmaceuticals which has built up such strength in parenteral drugs and lyophilized injectables that it is in the position of being courted by a number of larger 'across the board' generics firms who see, what Mr Levent Selamoglu, it's General Co-ordinator wryly calls the "injectable company," as offering a great complement to the rest of their product range. Bilim also sees the danger in licensing agreements and Mr. Bulent Karaagac, President of Bilim, remarks rather proudly that "we have very few products under license. We are a 100% branded generics company, and therefore we are completely independent from license or distribution agreements." If there is any Turkish pharmaceutical company caught in licensing agreements to a rather alarming extent it is the Turkish conglomerate, Eczacibasi. Yet the plethora of strands that form the web mean that it too can withstand the ending of a foreign partnership without much damage.

***The recipe for success***

All of the above aside, in such a crowded global pharma market, what is it that will help Turkish companies stand out from the rest? The magic ingredient for Turkish pharma to place them above their competitors seems to be active ingredient research. Specialization also seems part of the recipe for success, and combining both promises much. By using the products and strength of its active ingredient sister company, Unifar, MN Pharmaceuticals can be applauded for orientating its search for foreign partners to those who appreciate innovation in active ingredients in a specialized sector such as injectables rather than solely generic production. Mr. Karaagac of Bilim also attaches great importance to R&D and new product investment: "We have good R&D knowledge and technology, that's our comparative advantage." Dr Umran Uzbek, MD of Deva Holding, when asked what is the decisive factor that should help Deva in the challenging years ahead, emphasizes on quality: "Our efforts to be cGMP compliant and our constant efforts for quality is what will keep us ahead of our competitors and will be the basis of our partners confidence."

Fighting hard enough to produce for the world?

***Problems faced at home by the pharma industry***

If things are expected to be rosier in the European and US markets, on the domestic front the picture is rather greyer. Consumption of pharmaceuticals is the lowest in Europe with around USD $50 of the country's annual per capita health expenditure of USD $ 160 attributable to the purchase of pharmaceuticals. Although this consumption may be picking up, other structural problems confront Turkish producers. Primary amongst these problems are those of the time lag between pharmaceutical companies requesting registration from the government and the registration being forthcoming. Concerning the health authority regulators Mr. Karaagac of Bilim concedes "They aren't able to respond to our needs. We meet our obligations but they cannot keep up with us." Mr. Eczacibasi, President of Eczacibasi Pharmaceuticals, smiles and rather diplomatically concurs "it has been a struggle with the authorities." Further consolidation in the social security sector where three separate drug refund systems are in place also offers further risks and opportunities. "The Turkish reimbursement system is very complex, the simplification is appreciated but it could lead to further frustration" explains an analyst in this field. Besides, bureaucratic obstacles have always caused problems for Turkish pharma and now they motivate Turkish generics companies to look further afield where the grass may be greener.

Yet the looming issue of data exclusivity agreements complicates even this 'internationalized' view of the future of the Turkish industry. Data exclusivity binds the domestic and the international domains of business inextricably together, but domestic government efficiency is a key need for guaranteeing data exclusivity. The Turkish generics manufacturer's representation body has therefore suggested holding back on data exclusivity until later in the decade but, regardless of the timing, what the issue signals is that to compete effectively abroad, the generics manufacturers must not only be strong in their own markets but help create facilitative domestic market conditions. As the picture blurs between the two domains of domestic and international within the pharmaceutical industry, Turkish companies are realizing that both the home and international markets offers promise and potential, both for failure and success. Profitable pharma beyond home turf means getting things right domestically.

One of the ways forward might be looking at the next therapeutic class of products that could become the next market winner. Deva Holding is, for instance, considering moving into cardiovascular system preparations. Another way might be thinking bigger, and therefore going through a necessary phase of rationalization and concentration of the industry. In today's pharmaceutical industry, small is no longer beautiful, and the costs involved in developing a solid pipeline of generics and successfully taking on board the marketing and registration burden means that the critical mass to reach entry level in the market is higher than ever. Considering the sheer size of the pharmaceutical players in Turkey, one can see concentration as the only way forward. Whether this happens on a pan-national basis, or between local and international players, largely depends on what the Turkish manufacturers can bring to the deal. A strong family background for most of the local contenders implies a certain resistance to merging with organizations within Turkey, as companies have been looking at each other with a certain dose of mistrust and jealousy. These reflexes are today being erased by the necessities of the market, but nevertheless, the country has not seen many major cooperative deals between pharmaceutical operators and even if the level and quality of discussion has largely improved thanks to the role of associations like the Pharmaceutical Manufacturers Association (IEIS), the prospects of purely national mergers and acquisitions is limited.

Beyond the national borders, Turkish manufacturers are attractive mainly to global players willing to have a cheaper and well located manufacturing base. In 1999, local manufacturer Ilsan Iltas was acquired by German firm Hexal. Milen, a Turkish API maker was also added to the venture, and Hexal completed the acquisition trail in 2001 with the purchase of Koz Pharmaceuticals/ Biokem. These examples show that there are many local credentials that make perfect business sense for foreign players to venture into the Turkish market. For Turkish manufacturers, to become fully fledged global partners will entail stepping up manufacturing capacities and keeping costs under check. It will also require the world to look at Turkey with new eyes and realize that, for the pharmaceutical sector too, at the crossroads of Europe, Asia and the Middle East lies a country of great promise whose true potential still remains to be tapped.

# Privatization process: slow motion emergency

The privatization process in Turkey has never taken a smooth ride. Delays, legal challenges and other bumps in the road have punctuated the last 20 years of efforts. Today, and following the requirements of the IMF sponsored assistance package, the privisation process has been re-ignited with Turkish Airlines, Tekel, Petkim and Tüpras being some of the more well known names on the bloc. However, eleven months into the year Tupras and Petkim are already behind schedule. While Tüpras is running into legal challenges, there are indications that long-delayed Petkim seems to be going ahead and could see the first phase of its privatization completed by mid-2005.

### *Tupras: Legal challenges*

The bloc tender of a 65.76% stake, owned by the Privatization Administration (PA), was held in January 2004. Efremov Kautschuk GmbH and the Zorlu Group consortium submitted the highest offer at US$1.3bn (valuing the company at US$1.98bn). As a 50/50 joint foreign and domestic bid, Efremov and Zorlu seemed like ideal candidates for the purchase, however, Petrol-Is, the labour union representing the state employees, took the case to the court, arguing that the tender did not fit the legal rules and procedures as laid out by the state. Ruling on a petition lodged by the labour union, the 10th Administrative Court of Ankara ruled against the Tüpras deal, stating that not only did the bid fail to satisfy the tender convenants but that the bidding process was not competitive due to the limited number of participants.

Although this legal process has been bouncing backwards and forwards since the initial award was made in January, the current ruling means that many feel that it will be at least another year before a resolution can be found.

Aside from the legal implications, analysts had previously criticized the award as placing too much strain on Tatneft's already overburdened debt pile. Efremov is the German-based affiliate of Tatneft, Russia's 6th major oil company. Unlike the other Russian majors, which have a core focus on Western Siberia, Tatneft's main assets are located in the Volga-Urals region – the republic of Tataristan. According to Chemorbis, the company showed specific interest for

Tüpras, for the purposes of geographical diversification & downstream integration. Tüpras purchases significant amounts of crude (about 23-24mn tons/year), and such a purchase would allow Tatneft a significant market access.

Zorlu by comparison is a Turkish based conglomerate with interests as diverse as home textiles, house hold appliances and energy. Celebrating its 50th anniversary this year, the company started from humble beginnings in the textile field and today enjoys an annual turnover in excess of $1.5bn. Like many other Turkish holding companies, the group has used its deep pockets to expand into market vacuums where foreign investment has either been unwilling or unable. This latest venture with Efremov is just one of many partnerships that the company has entered into in the past.

***Petkim:***

Not to be outdone by its sister organization, Petkim's proposed sale has also been dogged by controversy. Initially, a bloc sale of just under 90% of the company was to be made to Standart Kimya until financing issues with Standart's parent organization forced the PA to abandon the $605m deal.

Focus has now been turned on an all out floatation of shares on the Istanbul stock exchange some time in early 2005. It has been suggested that the public offering will increase private ownership in the company from 4% up to an estimated 51%. Shares would initially be offered to Petkim's customers with preferential conditions before heading for the block sale. Petkim reported a $40m loss for 2003, but the general manager, Kenan Yavuz is quoted by local media to be predicting a significant turn around to profitability on increased revenues next year. The company attributes increased profitability to higher petrochemical prices, and savings through organizational restructuring, including a switch from fuel oil to natural gas for its electricity generation. According to Petkim; petrochemical growth rate in Turkey outstrips GDP growth by 2.5%, and is likely to continue this trend.

Although rocky in most countries, the privatization process in Turkey has seen more hurdles than most. The sale of Petkim and Tüpras are just two examples that happen to affect the chemical sector. The treasury had hoped to raise at least $4bn in the sale of government assets this year, although only $744m was achieved in the first six months of the year. Nevertheless, the process is an improvement on previous attempts and the strength of the current government leads many to predict that the process will continue, bumps and all.

# Petrochemicals: plastic hunger

Turkey is a country with a very large and growing population. It is also now a prime destination for investment in areas such as consumer goods, textiles and automotives. As such, it is clearly a key market for petrochemical products and it displays a solid appetite for plastics. The Turkish Plastics Manufacturers Association, PAGEV, reckons that "currently Turkish annual polymer consumption of 2.8 million tons ranks the country 6th in Europe just behind Spain. However, the per capita consumption is far from saturation at 40 kg, (though it is higher than the world average) a clear indication of the bright future. When the consumption level reaches 75-100 kg, the level of developed countries, Turkey will become a significant player in the world plastic industry with its population of 70m." Indeed, the $4bn market is already appealing and it would seem natural to see Turkey hosting major petrochemical complexes to feed the local demand and use its natural geographical advantage to become an export hub.

Yet, domestic polymer production is relatively low and local production hardly covers one third of demand. Local players are predominantly state are at the crossroads of their destinies as both Tüpras, the country's main refiner and Petkim, Turkey's key petrochemical producer, had been expected to start their long-awaited privatization processes this year.

Previous attempts to sell this entity, feeding up to 30% of the local demand for polyolefins, have run into controversies, delays, cancellations and have ended up by creating 17 years of a public relations nightmare for the industry as a whole. The first petrochemical complex of Petkim was established at Yarımca and started production in 1970. Ethylene, Chlorine, Alkali, VCM, PVC and LDPE were added by the subsequent addition of CB, Styrene monomer, PS, BDX, SBR, CBR, DDB and caprolactam plants between 1972 and 1976. Due to rapidly growing domestic demand, the Yarımca Complex soon became insufficient and Petkim's second complex was established at Aliaga in 1985. Later on, most of the Yarımca complex was decommissioned and the remaining 5 units producing SBR, CBR, CB, BDX and Polystyrene were acquired by Tüpras in 2001, turning the refiner into one of the main petrochemical operators of Turkey.

Today, Petkim controls the Aliaga complex, near Izmir, from where it churns out a total of 1.5m tons of products annually; 400,000 tons of Ethylene, 123,000 tons of benzene, 516,000 tons of thermoplastics and a quarter million tons of raw fiber materials. Petkim is still the predominant petrochemical producer of Turkey but is nevertheless producing well below market needs and therefore expected to increase capacity to make the most of the markets hunger for plastics. The company is thus nurturing a number of expansions, most notably a $82m ethylene expansion to be completed in the first quarter of 2005. "There is a 3 year opportunity on the world market to increase our capacity and benefit from the upward trend of the petrochemical market cycle, before Middle Eastern capacity arrives on the market" analyses Kenan Yavuz, Petkim's newly appointed General Manager. "We are also looking at expanding thermoplastics, Polyethylene, Polypropylene, to reach 800Kt next year and our medium term goal is to reach 1.5m tons of thermoplastics production." Within this scope of expansion, LDPE is expected to reach 310kt, and PP 144Kt.

Petkim is already quite clearly benefiting from the positive petrochemical trend as it is expected to return to the black in 2004, after a series of loss-making years. So is everything rosy for Petkim ahead of its IPO? Definitely not, as Petkim is trying hard to secure long-term supplies to fuel both its current capacity and its forthcoming expansion: the ethylene cracker is a naphta based unit, and prices have continued upwards which has squeezed margins. Lately, Iranian

Naphta was thought to be sought after.

And on the privatization front, things aren't exactly exhilarating yet either. Tüpras's current stalled privatization shows that all is not well for Turkey's privatization process and the lack of enthusiasm from plastic professionals for the sale of Petkim are further potential worries. The plastics industry is skeptical and unimpressed by the performance of the state company in recent years and seems rather reluctant to become a direct stakeholder in the organization. As an example, one such plastic end-users told us that "our confidence in Petkim has been affected by the difficulties of the last years and obviously, the rocky privatization path. Today, asking us to become directly involved in the company's future is like placing a big bet on a weak horse. Yet, we would love to see Petkim faring well in the years ahead as it is a guaranteed source of material and a company we always had privileged client-suppliers relationships with."

Meanwhile, Petkim is facing tough competition from the region and already provides less than 30% of the market needs in plastics. Other local petrochemical producers include Baser Petrokimya, the Polystryrene operation of the Baser group, a leading household products maker, which has a capacity of 40,000 tons, but the world tightness on styrene monomer has also created difficulties for Baser. Nevertheless, the company is nurturing an expansion plan and is actively looking for a partner. Besides these, Sasa, a member of the Sabanci Group, one of Turkey's leading holdings, and a project of PET is being nurtured in the Eastern parts of Turkey by a local textile group. Putting all of these operators together, and compared to market needs, local petrochemical production remains sketchy.

This leaves ample room for those who are feeding the markets needs with imported material. Here, Turkey displays some unique opportunities; online trading platform, Chemorbis is a relatively new operation that has modified market perceptions and usages in depth. Although it is only 4 years old, the platform already accounts for 6% of Turkey's plastic spot trading, has over a thousand companies signed up and achieves annual sales traffic in excess of $135m. In a market that imports 70% of its demand, or 1.79m tons, such a proposition is a welcomed change to a traditional market as final users as well as traders have started to shift their purchasing habits to use the online platform.

Plastic transformers are therefore looking forward to buoyant years ahead, with plenty of imported and domestic raw material, easy trading tools and a local petrochemical complex geared up for their needs. Looking ahead, the completion of pipeline projects such as the landmark Baku-Tbilissi-Ceyhan pipeline, and the Blue Stream pipeline are further indications that the country's destiny revolves around hydrocarbons and their by-products. The proximity of Iraq and the long-term prospects held by the country's regime change are a further testimony that Turkey is at the crossroads of geography, and of history. Its petrochemical industry could benefit from this manifest destiny in the future provided the path ahead is drawn with more clarity than over the past two decades.

# Alchemy of success

The development of the Turkish chemical industry, very significant for approximately 40 years now, is strongly based on the dynamism of a myriad of private companies, mostly family owned.

This situation is definitely a strength for the Turkish chemical industry. In parallel with the sustained growth of Turkish industry over the last two years, the level of consumption of many chemical products has increased. This represents a golden opportunity for many SME's or big companies operating in all the sectors where Turkey desperately needed to develop its domestic production.

The result is that today, the Turkish chemical industry, equipped with modern technology and brand new equipment, generates an important contingent of manufacturers who have diversified their products and showed steady improvements.

From semi-finished to finished products, Turkish companies have placed, for the most part, a great deal of importance in meeting international standards for quality and for the environment. This explains the success of some domestic companies not only on the Turkish market, but also abroad: "Big money is to be found in big markets and the international market is where you will win" sums up Mr. Nejat Karaagacli, General Manager of BOS, one of the leading industrial and medical gas companies in Turkey.

Deren Chemical's laboratory: The quality of Human Resources is another competitive advantage to be reckoned with.

Turkish companies use all the advantages offered by their size (small or medium, by American or European standards) to constantly improve their competitiveness by innovating, training their people, investing in new production capacity, finding new markets overseas and adopting a niche market strategy with incredible efficiency.

One example of such a company with a successful history in specialty chemicals is Akdeniz. Akdeniz produces taylor-made stabilizer compounds, matching the specific requirements of their customers. Under the leadership of Mr. Cem Heris, General Manager and son of the founder the turnover of Akdeniz was multiplied ten-fold, from $6m when he joined the company in 1994, to $60m in 2004; 60% of his production is exported.

Cem Heris belongs to this generation of entrepreneurs who ally clear thinking and clear actions to make their company grow. "For the last six years, all the profit went back into the company to grow our capacities ($8.5m invested just for 2002 and 2003). We grew our exports, without neglecting the local market which supported us. We oriented our exports towards the German and American markets, but now we plan to export allover the world". A Turkish company which exports chemicals to German and American giants, what is the secret? "Market intelligence is our priority. I rely on my export department, where eight young people are working. I call them 'my warriors'! We have 25 people working in our R&D department, for whom I always buy new equipment." What is the result? "Our latest 'baby' is coming: We will mix stabilizers and modifiers in one package. We expect a great success for this new product that we are the only one in the world to produce."

In brief: Strong marketing upstream, strong R&D downstream and a continuous level of quality. Add to that good management from the supply chain to the sales (direct approach to final consumers, without sales intermediaries) and you have the Akdeniz's formula for success.

But it's still not enough for Cem Heris. "Now we have established our company as a reference in the domain of polymer additives, we want to become a well established chemical company. For that, we need a partner. But this has to be a chemical company which shares our views on management."

The case of Akdeniz reveals the ability of Turkish companies to stay in the race alongside American, European and Asian players.

The market of soaps and detergents in Turkey provides another illustration of this. Everywhere in

The Alkim Sodium Sulphate plant: Tapping the natural bounties.

the world, the chemical industry is designed to fuel domestic needs first, and one of the first markets is household chemicals and the soaps and detergents sector. In Turkey, a country of almost 70 million souls, domestic players have been successful in keeping at bay the global contenders who have been so successful at grabbing dominant positions elsewhere in the world. Soap maker Evyap or detergent manufacturer Baser are fighting hard to keep P&G, Henkel and Colgate Palmolive at bay, and have managed to build customer recognition that is, for instance, providing Evyap with the leading market share in the soap segment. The company has also spread its activities beyond Turkey's borders, with plants in Egypt and Ukraine. A number of smaller sized detergent manufacturers are also rendering the market very price-competitive, making life even more difficult for the big global producers.

***Subsoil advantage***

Turkish chemical companies also take advantage of what the Turkish subsoil can provide them with. Many companies have developed their activity around the exploitation of sodium and chrome ore deposits, plentiful in south-central Turkey. The country has a large estimated reserves of sodium-rich minerals such as trona. This mineral used to produce soda ash, an indispensable component in the production of glass, had to be imported for many years before the current market leader, Soda Sanayii, sought out a local source of production. Soda Sanayii A.S is one the four business groups of the glass producer Sisecam, a subsidiary of Turkiye Is Bank, the 3rd biggest conglomerate in the country. It is the only producer of soda ash and chromium chemicals in Turkey. If half of the soda ash produced by this company is consumed by Sisecam, the remaining 50% is exported, as well as 70% of the chromium chemicals. Soda Sanyii merged its activity with Kromsan in 1986, giving birth to a world leader in soda ash and chrome chemicals with a turnover of $175m. If Soda Sanayii is totally dominating the soda ash production in Turkey, for sodium sulphates production also, Turkey is host to strong operators: The Turkish national champion is called Alkim Alkali Kimya ($90m turnover) and is not only the main Sodium Sulphate producer and exporter ($40m) in Turkey, but also a very respectable actor in the world. The "salt cake" they produce is an important raw material for the industries of paper, detergents or glass. Mr. Kora, managing Director of Alkim Alkali Kimya, chose to invest in the paper business, which he considers "a strategic activity for (their) development". The industrial synergy between the Sodium Sulphate and the paper production is not obvious but Mr. Kora prefers to talk about the interest of integrating its activity. "The Turkish consumption of paper per capita is 26kg, that is ten times less than the USA. This feeds our great expectation on this market". Meanwhile, another company, close by the name and turnover($85m), but very different in many ways, Akkim Kimya Sanayi, has a strategy based on diversification and synergy in its production of chemicals. Diversification first, in so far as their range of products goes from inorganic chemical(including of course sodium suphate-based chemicals) to organic chemicals and textile auxiliaries. Mr. Refik Onur, GM of Akkim, is planning to increase his exports dramatically, counting on a steady growth fuelled by new production in areas like Hydrogen Peroxide. Akkim also creates Synergies, with its sister company, Aksa. Akkim and Aksa belong to the same group, Akkök being very close to each other they share logistics facilities, water treatment, steam and electricity. Being vertical or horizontal, synergies always constitute a good competitive advantage. Turkey's subsoil also contains the largest deposits of Borax in the world, with more than 60% of the proven reserves. Gizem Frit has used this raw material to produce enamel and pigments since 1979. Exporting 65% of their production to Europe, especially Italy, they sell their products mainly to cooker producers and are growing at a pace of 20% per year. Mr. Tolga Ballik , General Manager of Gizem, explains why the exports are the key of their strategy: "First of all, the production of white appliances in Turkey is not as developed as in Europe. "We are very happy and successful with the European market because our comparative advantages are decisive. Our prices are really interesting, we don't pay customs and we achieved the same level of quality as that of the two giants of the sector, the American Ferro and the British Pemco." in fact, Ferro is Gizem's main competitor in Turkey, since they created a joint venture with the Turkish company Ege Kimya. Interviewed about this tough competition, Mr Ballik answers mischievously; "of course it definitely makes sense to create a joint venture in Turkey, where the raw material is!" Is it a discrete appeal to Pemco? Mr Ballik doesn't deny this, arguing that building alliances is the surest way to win.

Textile, a key driving force behind the industry. Aksa is the largest acrylic fiber maker under a single roof.

***The inevitable, and crucial, textile industry***

The textile sector is Turkey's largest manufacturing industry and the largest export sector. It is also one of the biggest consumers of chemicals. Many companies have been created to supply this industry and one of the most established in Turkey is Aksa. Created in 1971, Aksa is now the main acrylic fiber producer in Turkey (with more than 80% of the market share) and even owns the largest acrylic fiber production capacity in the world under one roof. Aksa sells on all the five continents, and is a "perfect example of a company who managed to succeed both domestically and internationally" according to Mr. Mustafa Yilmaz, General Manager of Aksa.

Another domain where some national companies are particularly dynamic is water treatment chemicals. Many distributors, like Abaci Kimya and Dibay, have focused their activity on the distribution of the chemicals, since the level of consumption began to rise 10 years ago. Indeed, from swimming pools to industrial plants, the use of these chemicals is booming in Turkey. Mr. Tufan Abaci, owner of Abaci Kimya, a distributor for major global companies such as Akzo Nobel and Dow Chemical, explains that the trend of the market is very good not only in Turkey, but also in the neighbouring countries. This represents a good opportunity for developing a re-exportation activity.

Despite the intense activity of the distributors importing these crucial products for the Turkish industry, domestic manufacturers are also present and dynamic. Deren Kimya is a company created with domestic capital and technology and is now the only Turkish company who can compete against the giants of the sector such as Henkel and Narco. Mr. Taskkin Ozturk, owner of the company, explains that he successfully chose a niche market strategy such as marine technology and pharmaceuticals including water. Mr Ozturk takes advantage of the flexibility of his company:"One of our advantages is the ability to move much faster than the larger companies. That's because decisions on technical matters and financial matters are centralized through me and answers come quickly." When we ask him about his expansion projects, his answer also came very quickly :"Production is always expanding. As is our distribution network. We serve 2,500 companies and are known by all the companies in the industry. We believe we can cope with both producing for the domestic market and for the export market."

Turkish managers and entrepreneurs alike have spent years honing their crisis fire fighting skills as the economy has lurched from boom to bust over the past two decades. The last crisis of 2001 forced many to look beyond their borders and towards the opportunities both nearby and further a field; double digit growth in exports since 2001 prove that such a strategy has been well conceived. But as the local economy has rebounded (this time more steadily) these industrialists have not forgotten their local market and have now returned their attention to redevelop their base market. With everybody from the man on the street to the IMF in Washington predicting an end to past economic woes the local chemical sector can now concentrate on strategic growth and development.

# Logistics:

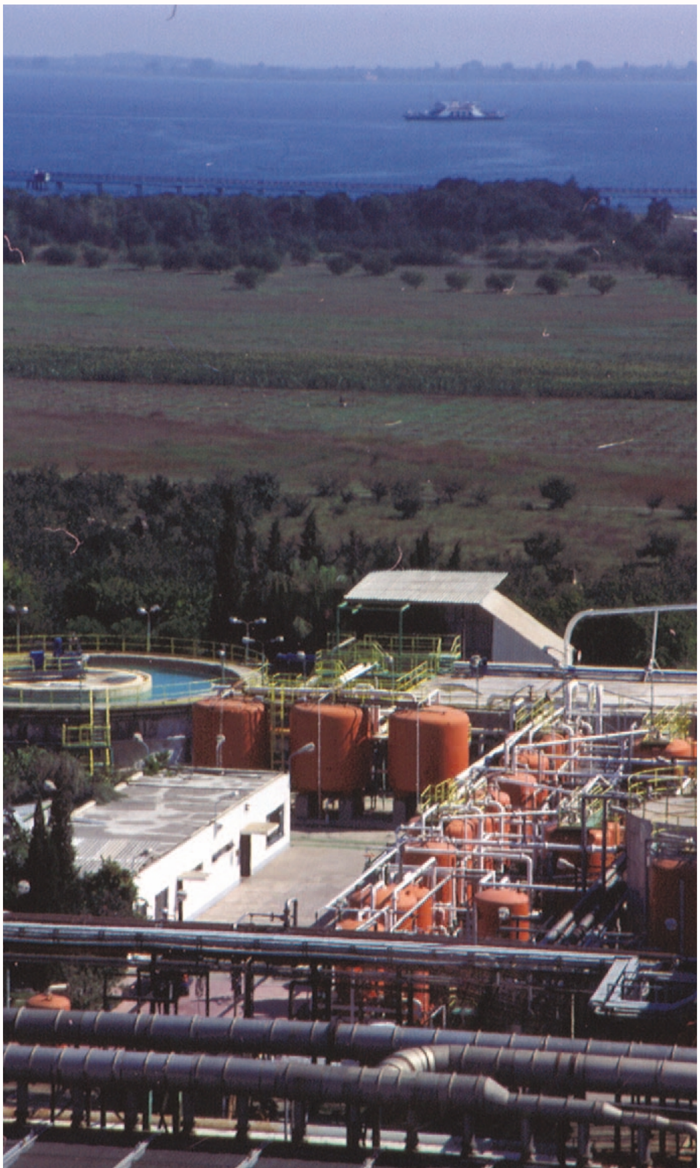
## yes we can

Facing increasing global competition, the Turkish chemical industry holds two good playing cards in its hand: The geographical position of the country and the flexibility of its companies. However, these cards become real trumps only if the sector can rely on a dense and efficient logistics network. The competitiveness and the development of the chemical industry in Turkey depends on a good and safe synchronization between all the links in the supply chain, and not only for exporting companies.


En route to the world: Turkish chemical needs a solid logistics backbone.

Nestled between three major geopolitical blocks, Europe, Russia and the CIS and the Middle East, Turkey naturally plays a role of hub in the sub-region. For most of Turkish chemical companies, Europe is the main provider for raw materials, while Eastern Europe, Russia, Ukraine and the Middle East are typically important export markets.

Approximately 50% of Turkey's chemical industry is concentrated in the Istanbul-Koaceli region. The province of Kocaeli, 60km south east Istanbul, has become the most rapidly growing industrial region in Turkey. If Turkey is a bridge between continents, Kocaeli is a real bridging point within the country. Moreover, thanks to continuous industrial investments (between 1965 and 1970 Kocaeli was the most rapidly growing industrial region in Turkey and even in the world - with a growth rate of 577% ), the region is now home to 35% of the chemical industry, 10% of automotive and 20% of the basic metal industries, both big users of chemicals. Many reasons can be given to explain why Koaceli became the 'place to be' for the chemical industry. The first one is obviously the proximity with the biggest zone of consumption of the



Turkey, a logistical heaven?

country, and even of the entire sub region: Istanbul. A second reason is the establishment of special trade zones like Gebze Organized Industrial Zone (GOSB) or the Kocaeli Free Zone (KOSBAS). However, it is the sophisticated communication and infrastructure network that truly underlies Koacelis's success as an investment destination. To a lesser extent, and for quite similar reason, most of the rest of the chemical industry is located around Izmir and Ankara.

The Izmir region in particular is far from irrelevant with the presence of the giant of Turkish petrochemicals, Petkim, located there, attracting a cluster of companies including Yasar/Dyo for paints, AGS for paraffin wax and Akdeniz (polymer additives).

In order to be able to sustain their growth, the chemical companies of the Koaceli region, need to have raw materials constantly at their disposal. Thus, the last thirty years, have witnessed a significant increase in the number of private ports and warehouses in this zone.

The story of Poliport underscores this trend and also the capacity of Turkish entrepreneurs to think forward and to develop their businesses constantly, even if this means changing their core activity. Poliport was founded thirty years ago, in order to support Polisan`s (the mother company and one of the five most important paint producers in Turkey) existing activities. Mr. Necmettin Bitlis, is a charismatic individual who at the age of 76, is still very active and involved in future plans of the business. Though he would rather lay responsibility for his success in anticipating trends like a fortune teller, it is evident that he had a clear business vision when building up one of Turkey's largest private ports and positioning Poliport and Polisan in a very strategic position. Moreover, taking a strong stance on environmental responsibility, Mr. Bitlis distinguishes himself as a role model for future captains of industry. "Fortune played its role in helping me realize the importance of logistics," he says, "but I was always aware of the potential the sea gives in terms of logistical advantage." Indeed, after years of constant investments into expanding and modernizing his plants, Poliport now serves a large spectrum of clientele in the areas of Bulk Liquid Storage, Warehousing and Stevedoring Services for dry bulk and general cargo vessels. Mr Firat Yemeniciler, General Manager of Poliport, has no intention to take a break in the expansion of the port. "We aim to be a $500 million company (against $130 million in 2004) through new alliances and new acquisitions. I undertake that if we can combine our forces with technically advanced, financially strong businesses we can more than double our size."

But ambition is not the prerogative of only Poliport. One of its main competitors is Solventas, whose terminal is a bonded warehouse for bulk and dry chemicals spread on 25 acres at the Izmit Bay shore of the Marmara Sea, about 20km from Poliport's terminal. As with Poliport, Solventas takes advantage of a very good location, close to Kocaeli. Their portfolio of suppliers is a real "who's who" of the chemical industry, including most of the biggest chemical companies in the world (BASF, Clariant, Dow, DuPont, etc.)

Constant innovation is the Solventas leitmotiv: "We have built new bunkering facilities for the vessels and this has become very profitable" says Alber Baruh, founder of Solventas. "We also have a type of blender that you can't find in any other terminal in the world, except in Singapore" he added, proudly. But innovation can be found elsewhere than in the terminal's facilities. "One of the main strengths of Solventas is our new IT system which provides us with total control on everything happening at the terminal. The customers are informed by Internet, which improves customer relationships and reliability. For us, it's also a good medium for optimizing the security and the profitability of the terminal, knowing in real time the tanks' inventory and activities." He adds that this tailor-made software solution would be attractive to any other terminal operator in the world. "Moreover, we are the owner of the lands surrounding the terminal, so we don't have to beg anyone when it comes to expanding our storage capacity…."

Of course, Solventas and Poliport are not the only companies to have tried and managed to make the most of the exceptional location of Gebze. Alemdar Kimya, the first and only oleochemical plant in Turkey, followed the same strategy as Polisan. Being a leader in the oleo chemical industry and exporting to the Middle East, the Far East, Europe and United States, they decided to build the "Alemdar Port Facilities" which consist of 4 berths, 6 pipe-lines, and 3 tank terminals. The trend of expanding the core business to logistics management is strong and enduring in this zone. Evyap, one of the biggest soap and cosmetics producers and exporting 75% of its production, took the same decision, founding last year Evyap Logistics and Evyapport, the port of Evyap.

This strategy consisting in integrating logistics such as port facilities, is based on the idea that who controls the stocks controls the market and above all, is less exposed to the risks of shortages.

Indeed, Turkey is strongly dependant on the imports of raw materials, particularly from Germany, Italy and Switzerland. Any fluctuation in the supply chain can have immediate and costly impacts on the activity of the chemical companies.

As previously stated, the majority of the chemical companies in Turkey are rather small compared to their competitors in Europe. Most of these smaller companies that we met with when researching this report assured us that their small size, combined with a sharp and reactive organization, is a strong advantage in terms of flexibility. Mr. Cem Heris, General Manager of Akdeniz in Izmir explains that "if an order from Egypt comes today, his products can be in his warehouse less than 5 days later."

To perform a feat like that, two conditions have to be in place: The Company should be able to accept and deal with any kind of order,

Poliport: One of the major private gateways to Turkey.

whatever the amount, and it has to depend on a good transportation system.

In Turkey, almost all customers in need of overland transportation, use trucks as Turkey lacks a sufficiently developed railway network to enable a good transportation of commodity chemicals. In addition, last July, two deadly train crashes in the northwest of the country killed 37 people and injured 81. These terrible accidents reminded everybody that the railway network is not only underdeveloped but is also potentially dangerous. This situation has made Turkey one of the countries with the largest truck fleet in Europe. Alisan group, an international transport company based in Gebze, owns a fleet of almost 200 trucks, including 19 liquid chemical carriers and transports its customer's products throughout Turkey and all over Europe. 60% of their activity comes from carrying chemical products. Mrs. Damla Alisan, one of the founder's daughters and GM of the company, sums up: "Chemical companies have no other choice than using trucks. We are there to create added value and to transport their products with all the safety required. Despite the competition, the prices of these services are still quite high" Fuel costs are currently double those in the States. What's more, the conditions of the roads, especially in the countryside, have to be dramatically improved.

However, despite these difficulties, the logistics market is well organized by local players, who have learnt year after year, to adapt to the specific conditions existing in Turkey. The arrival of big foreign competitors into this tempting market (like the German Brenntag, who is expected to make a significant move on the Turkish market early 2005) will be a new challenge for these well implanted companies.

# Paint: bright delight

If one segment of the chemical industry in Turkey were to be singled out for a promising future, it would have to be the paint industry. Two elements under pin the growth of a sub-sector that today accounts for 4.3% of the Turkish chemical industry's overall sales.

The first element is the rise of a large Turkish middle-class, fueling consumer spending and boosting paint consumption. The shift towards decorative paint from an industrial coatings-dominated paint industry is pronounced and most manufacturers are now concentrating on this segment. Levels of competition have soared, especially due to the presence at the heart of the Turkish market of a cottage paint industry selling low quality, low priced products. Product differentiation is therefore a relatively easy exercise, but educating consumers to increase their spending habits for paint items after years of belt tightening due to economic crisis has been a costly marketing exercise for all local Turkish paint makers.

Turkey's per capita paint consumption is still very low, at 4-5 kg per year versus levels of 18-20 kg/yr in developed countries. Yet with growth rates for paint consumption at 10% annually since 1988 and an estimated 12% annual growth over the last few years the sector has become an