

Biotechnology Components for Clinical Diagnostic Kits		
Sector: Healthcare	Project Value: JD20M	Location: Amman and Regions
<p>Potential Opportunity</p> <p>The regional and global markets for diagnostic test kits are well established and growing at a steady rate. The global markets, especially EU and USA, are becoming more and more accessible to companies with established quality systems and innovative products.</p> <p>Jordan has a number of producers of diagnostic test kits, who are part of a mature industry with the know-how and sales / distribution channels to be internationally competitive. Several of these producers have developed a new generation of diagnostic tests capable of extending the capabilities of test kits and at high levels of accuracy. These developments have the potential to ensure the local industry remains internationally competitive.</p>		
<p>I. Description of the Business</p> <p>The current business is the supply of patented test kits that are protected by more than 20 patents at various stages of approval. The new business is the backward integration by the diagnostic test kit manufacturers into production of antibodies and antigens using biotechnology.</p> <p>The antibodies and antigens are raw materials that represent the largest single cost in the production of diagnostic test kits. These raw materials are currently all imported and their production in Jordan will involve investment in new production line facilities. The ability to produce these materials will reduce manufacturing costs by approximately one half and strengthen the companies' ability to export their test kits.</p>		

Pharmaceutical Raw Material Production		
Sector: Pharmaceutical	Project Value: 10-20 M	Location: Salt
<p>Potential Opportunity</p> <p>Pharmaceuticals is a mature industry in Jordan and the second largest exporter with 17 plants supplying over 70 countries with exports exceeding USD 300 million. The key export markets are the MENA region, Central Asia, Europe, Africa and North America.</p> <p>Certain researchers in the local pharmaceutical industry have applied their know-how to the development of new excipients (pharmaceutical raw materials other than the active ingredient) that will build on the industries existing capabilities. These excipients are based on the natural polymer chitin found in crustaceans.</p>		
<p>I. Description of the Business</p> <p>A spinout of a Jordanian company has developed a new generation of excipients based on chitin technology and is looking to establish the capability to manufacture and sell these products using local patented Intellectual Property (IP).</p> <p>These patented excipients go beyond the role of replacing imports; they present an opportunity for a Jordanian company to become a key global player in the proprietary excipients market by providing unique patented products.</p> <p>The products include proprietary superdisintegrants, universal sustained release matrixes for tablet formulation, and drug-chitosan complexes enabling the production of unique pharmaceutical products for sale all over the world.</p> <p>Specific opportunities exist for investors to participate in joint ventures that could reach values in the range JD 10 to JD 20 million, depending on prospective returns.</p>		

Mobile Medical Analysis (Laboratory) Service.		
Sector: Health	Project Value: JD 8M	Location: Amman
<p>Potential Opportunity</p> <p>As a result of digitisation and the high price of imaging equipment the mobile medical imaging industry is taking off. Mobile equipment in the field of Computer Tomography (CT), Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET), are being designed and mobilised. A key issue is transportation and handling of the equipment as well as providing an operator.</p> <p>In Europe, hospital trusts are allowing private sector laboratories to provide and operate mobile equipment in the hospital environments using fully qualified technicians.</p> <p>In conjunction with VR and PACs, mobile digital systems are becoming increasingly attractive to the National health system. Therefore specialist outsourcing is become more popular and a real opportunity for Jordan.</p>		
<p>I. Description of the Business</p> <p>A specialised laboratory operating mobile analysis units on behalf of the public and possibly the private sectors. The investment will be in state of the art mobile equipment and digital technology, workshop, specialised staff and bespoke transport facilities.</p>		

Intravenous Fluid Producer		
Sector: Pharmaceutical	Project Value: JD15M	Location: Dead Sea, Karak
<p>Potential Opportunity</p> <p>The WTO recommends that all countries produce their intravenous (IV) solutions in-country to reducing shipping, inventory costs and foreign expenditure. Although, the US market comprises almost 70% of the total world market for IV solutions, the market in emerging nations is growing significantly. Jordan, like other countries, currently imports its IV solutions for medical healthcare. A potential domestic market with lower production costs, using locally produced potassium chloride (from potash industry) make this an interesting prospect for Jordan. ROI figures have been quoted as 3 – 5 years.</p>		
<p>I. Description of the Business</p> <p>Potential diversification opportunity for a Jordanian Pharmaceutical Company or a new entrant into Jordan. The technology is well understood, uses local water sources, and blow/fill/seal (BSF) aseptic packaging. The business will seek to obtain technology transfer and knowledge from an existing producer. A typical company to approach would be SBT Technology. Inc. part of World Development Group.</p> <p>The facility will ideally be designed having capacity to produce IV solutions for a wide variety of therapies, anti-biotic, anti-inflammatory and others.</p>		

Intravenous and Urine Bag Producer		
Sector: Pharmaceutical	Project Value: JD5-8M	Location: Mafraq, Amman
<p>Potential Opportunity</p> <p>A significant number of intravenous (IV) and urine bags are imported into Jordan. These are consumable items and problems have been experienced with the quality and reliability of supply. There have been issues with the use of PVC products for IV use and the outcome needs to be understood, as these products still populate the market especially supplied from China. Plastic products are produced in Jordan and medical wholesalers operate in Jordan so there is an opportunity to consider producing Urine and IV bags to substitute imported products. This may open a longer term approach to the medical bag sector for breathing, blood, ice, and many other medical bag applications.</p>		
<p>I. Description of the Business</p> <p>A possible joint venture between an existing medical equipment provider and a plastics producer. The producer will need the capability and necessary understanding and management commitment to move into the medical sector and produce a quality product for a clinical environment.</p> <p>The investment is likely to be based on creating clean manufacturing conditions and production equipment.</p> <p>Large volume plastic bag production machines can cost up to US\$2.5M</p>		

Insulin Non Injectables		
Sector: Pharmaceutical	Project Value: JD12 - 20M	Location: Amman
<p>Potential Opportunity</p> <p>Insulin is a hormone that regulates the amount of sugar (glucose) in the blood. People who don't produce enough insulin suffer from diabetes. Diabetes affects approximately 170 million people worldwide and is increasing, with the WHO predicting 300 million diabetics by 2025. The US alone has 20.8 million people suffering with diabetes. It was the 6th most common cause of death as recorded on US death certificates. The Global Diabetes drugs treatment market was valued at \$15 billion in 2005 and is expected to reach US\$21 billion by 2011. Currently Jordan's insulin is imported. The Pharma sector has the skills and potential to produce insulin in country. There are also a number of steps in the supply chain where Jordan could enter into either the class one or class two diabetes market. Novo Nordisk a major player and producer with 40% of the market, are looking to make large investments in filling, finishing and distribution facilities around the world. The opportunity exists to attract a company to Jordan with specific interest in manufacturing non injectable products for the diabetes market.</p>		
<p>I. Description of the Business</p> <p>Pharmaceutical company with the expertise and ability to manage a production facility for the filling and finishing of non injectable drugs for the medical sector. Investment will be needed in premises, infrastructure, clean room environment and process equipment.</p>		

Insulin Injectables Production Expansion		
Sector: Pharmaceutical	Project Value: JD20M	Location: Amman
<p>Potential Opportunity</p> <p>Insulin is a hormone that regulates the amount of sugar (glucose) in the blood. People who don't produce enough insulin suffer from diabetes. Diabetes affects approximately 170 million people worldwide and is increasing, with the WHO predicting 300 million diabetics by 2025. The US alone has 20.8 million people suffering with diabetes. It was the 6th most common cause of death as recorded on US death certificates.</p> <p>The Global Diabetes drugs treatment market was valued at \$15 billion in 2005 and is expected to reach US\$21 billion by 2011. Currently Jordan's insulin is imported yet the Pharma sector is very competent and has the capability to produce injectables, which will remain a significant opportunity considering the size and projected continued growth of the injectables market.</p> <p>The opportunity exists to review the market potential and identify a suitable strategy to relocate the current facility and/or provide the necessary resources (manpower) to qualify a new purpose built factory to impact on the current market. Initially the target market will be for injectables products with subsequent development of non-injectables.</p>		
<p>I. Description of the Business</p> <p>Existing Jordanian pharmaceutical company with the expertise and ability to manage a production facility for the filling and finishing of injectable drugs for the medical sector.</p> <p>Investment will be needed in premises, infrastructure, clean room environment, process equipment and talented personnel.</p>		

Herbal Healthcare Products		
Sector: Pharmaceutical	Project Value: JD10 M	Location: Amman and Regionally
<p>Potential Opportunity</p> <p>Natural healthcare products provide an opportunity for Jordan to meet potential demand in the MENA markets (Syria, Lebanon, Egypt, Turkey etc.) as well as the larger markets of Eastern Europe and the CIS.</p> <p>The pharmaceutical industry in Jordan is mature and has the know-how and sales / distribution channels to diversify and expand production into the natural healthcare products sector.</p> <p>The natural healthcare food and products market in the region is in its infancy, but already growing with specialist companies reporting the doubling of turnover each year from 2004 to 2007. On the basis of experience elsewhere, the market is expected to continue expanding along with consumers' interest in sustaining a healthy lifestyle.</p> <p>Investment is needed to expand and diversify manufacturing capacities, commercialise developed products, and continue product development.</p>		
<p>I. Description of the Business</p> <p>The Pharma industry in Jordan is well developed and experienced in manufacturing and distributing Pharma grade products – generally generic formulations with some specialised companies producing herbal medicines and food supplements. All raw materials are imported, including plant extracts for herbs indigenous to Jordan such as thyme.</p> <p>A herbal medicine manufacturing company business is looking to establish the capability to manufacture and sell plant extracts using local know-how and standardized medicinal plant extracts, often native to Jordan.</p> <p>The original business is developed on the basis of proprietary and generic formulations that are already selling in the regional market place and now require investment to cover investment to expand / develop production capacities, particularly for the establishment of a production line for plant extracts.</p> <p>Plant extracts represent the single highest cost in this industry, and by producing plant extracts the costs could be halved. Outputs of plant extracts can be directly sold to other manufacturers and the ability to supply raw materials will enable a further business model of licensing-out (franchising) the business to small and medium sized pharmaceutical manufacturers and supplying them with raw materials. This model is already in use and further interested parties have been identified.</p> <p>Specific opportunities exist for investors to participate in joint ventures that could reach values in the range JD 15 to JD 30 million, depending on prospective returns..</p>		

Freeze Dry Biological Drug Producer		
Sector: Pharmaceutical	Project Value: JD10M	Location: Amman
<p>Potential Opportunity</p> <p>Dry pharmaceuticals made from high performance particulate powders facilitate new drug delivery technologies and enable free entry of drugs into the blood stream via inhalation and 'transdermal' routes. The drying process known as lyophilisation is an optimum drying method which extends the lifetime of temperature sensitive medicines.</p> <p>The size of the dry pharmaceuticals demand is not clear. However, one company that is producing a freeze dry gel patch for mouth ulcers in the USA treats 100M cases of mouth ulcers per year in 5-15 year olds.</p> <p>The opportunity is to introduce the freeze dry technology into Jordan.</p>		
<p>I. Description of the Business</p> <p>Investment in freeze drying facilities will require JD10 – 15M based upon a Y2005 facility in Germany for a Follicle Stimulated Hormone (FSH) product.</p> <p>Ideally this business will be a joint Jordanian venture company wishing to acquire freeze dry technology and extend from pharma into the biotechnology field. The freeze drying technology itself is commercially available and therefore the key is identifying a suitable drug application and market. This facility could also be used for contract product development.</p>		



Dialysis Solution Producer		
Sector: Pharmaceutical	Project Value: JD10M	Location: Amman
Potential Opportunity Dialysate is a solution of pure water and various mineral ions (electrolytes) and glucose. The concentrations of electrolytes etc. (besides potassium and the bicarbonate buffer) closely resemble the concentration of electrolytes occurring naturally in blood: sodium, chloride, calcium, magnesium, lactate, potassium and glucose. Dialysate regulates the electrolyte and acid-base balance of patients undergoing dialysis to remove waste products from their blood. Patients are usually treated for 3-4 hours, 3 times per week. In Jordan the charge for these services in the private sector is JoD80 per treatment. Although Jordan has strong pharmaceutical, chemical, and medical sectors, all of its dialysis fluids and associated dialysis equipment are imported. This creates an opportunity to localize production of dialysate.		
I. Description of the Business Implementation of a dialysis solution producer. The business will produce dialysate solutions bag the final product and distribute same to health care providers in Jordan and elsewhere. The process will be capital intensive requiring stainless steel process, mixing, and demineralised water purifiers. The working environment must meet international ultra high standards of cleanliness.		

Dead Sea (International) Brand		
Sector: Pharmaceuticals	Project Value: JD1- 3M	Location: Amman
<p>Potential Opportunity</p> <p>Jordan has its share of dead sea product manufacturers, which are achieving recognition as these products begin to filter onto European high streets. Boots, a major European chemist/pharmacy chain now stocks 11 items from varying suppliers probably from both sides of the Dead Sea. Boots has its own branded products and no doubt if it was possible to do so, they would have had Boots own label produced in the region. Sales volumes, synergy, fragmented supply chain maybe some of the reasons why this hasn't taken place.</p> <p>However, the sector needs an international brand to promote and provide further credibility to the idea of using Dead Sea Products. The ideal brand would be from those promoting skin care; Avon, Elizabeth Arden, Rimmel, Max Factor, Bourjois.</p> <p>The objective and the opportunity is to bring a major brand into Jordan to promote dead Sea products.</p>		
<p>I. Description of the Business</p> <p>A global beauty business with access to retail outlets, and distribution channels, in more than 100 countries. With the ability to produce, package and promote products worldwide.</p>		

Cosmetic Eye Surgery		
Sector: Healthcare	Project Value: JD6M	Location: Ajloun, Madaba, Amman
<p>Potential Opportunity</p> <p>Eye evaluation and laser vision correction either by PRK or LASIK process is actively carried out in Jordan. However, cosmetic surgery in the vicinity of the eyes arguably requires greater specialist knowledge. The opportunity is to expand the scope of local Jordanian eye care to include cosmetic surgery around or associated with the area around customers' eyes.</p> <p>This blepharoplasty (baggy eyelid repair), functional eyelid repair, injuries to eyes, skin treatment (cancers), reconstructive repair, removal of dark circles, lifting sagging eyebrows. DRC tearing (nasal duct), BOTOX and surrounding facial and forehead blending.</p>		
<p>I. Description of the Business</p> <p>Cosmetic eye surgery, operating out of a small privately run clinic associated with an internationally acclaimed facility. The premises will be located in a quiet location within the outskirts of Ajloun, provide 10 private well equipped nursing rooms, small spar, examination room, two surgical theatres, catering and dinning, visiting and convalescent facilities.</p>		

Contract Research Organization (Phase 3 Trials)		
Sector: Pharmaceutical	Project Value: JD5M	Location: Amman
<p>Potential Opportunity</p> <p>Drugs typically take 12 years to travel from laboratory to medicine chest and millions of dollars (Eli Lilly, April 2006, projected to \$2billion by 2010). New drugs that pass the biological, formulation and toxicology tests enter a process of clinical trials (phases 1 to 3) as part of the New Drug Application (NDA) requirements of the US Federal Drug Administration (FDA). These trials are often carried out on a global basis by contract research organizations that meet the necessary regulations. Although Jordan has Pharmaceutical research organizations they are currently not equipped or approved to undertake trials especially the latter and somewhat opportunistic phase 3 trials in hospital and outpatient settings. With a minimum amount of investment one of a small number of research organizations in Jordan could undertake contract research as a business development opportunity. New analysis from Frost & Sullivan (http://www.drugdiscovery.frost.com), U.S. Drug Discovery Contract Research Organization Markets, reveals that the market earned revenues of \$7.44 billion in 2006 and is likely to reach \$19.35 billion in 2013.</p>		
<p>I. Description of the Business</p> <p>Although this opportunity is open to new entrants into Jordan, the business would ideally be formulated by developing and adding value to an existing research facility in order to save costs. The necessary investment would be in infrastructure, ICT, training and working capital. Approximately JD5M over a five year period.</p> <p>A collaborative agreement or JV maybe more attractive in providing access to the broader geographical markets.</p>		

Children's Hospital		
Sector: Healthcare Services	Project Value: 25JDM	Location: Amman
<p>Potential Opportunity</p> <p>There are currently no specialist children's hospitals in Jordan and very few in the region. Jordan has a young and youthful population, presenting the opportunity to attract patients from the local, regional and global marketplace. Jordan is working at promoting itself internationally as one of the most attractive health tourism destinations in the region and the world.</p>		
<p>I. Description of the Business</p> <p>The establishment of a world class children's hospital with good value medical expertise. The hospital will hire physicians and nurses providing everything from routine well-baby exams to pediatric specialists in all medical disciplines. The hospital will be readily equipped to accommodate the children and their caretakers.</p> <p>The hospital is estimated to have 100 rooms with clinical staff estimated to include approximately 150 active medical and dental staff, 120 residents and fellows, 200 nursing and patient personnel and 900 other full and part-time employees. The concept is similar to that of the Children's Hospital in Boston (http://www.childrenshospital.org/).</p>		

Blister Pack Packaging		
Sector: Pharmaceuticals	Project Value: JD 5M	Location: Amman
<p>Potential Opportunity</p> <p>There are 18 pharmaceutical companies in Jordan of varying sizes. HIKMA is the largest making most of its plastic bottles in country but currently imports all its 'Blister Pack' type packaging both foil and plastic. There's some suggestion that this may be a regional issue.</p>		
<p>I. Description of the Business</p> <p>Central manufacturer of Blister Pack packaging for the Pharmaceutical Industry and potentially other small consumables.</p> <p>Plastics is a mature sector in Jordan, this process would add significant value to the supply chain and it's level of quality. The existing supply chain maybe capable of providing sheet material</p>		