1. Industry Structure and Development

A. Water Soluble Film (Watersol™):

Arrow Greentech Ltd., an ISO 9001:2008 certified company, is one of the leading manufacturers of cast water soluble film in the world, having world class manufacturing facilities in Ankleshwar, Gujarat & has one of the best in class, totally automated machine, functioning presently. Expansion plans to increase manufacturing capacity have already been finalized and going forward. This expansion will almost triple the capacity of the Watersol™ production, in coming years. This Wonder Product has got varied applications in industries ranging from Agrochemicals, Construction, Chemical, Embroidery, Health & hygiene to Water transfer printing (3D printing). Watersol™ provides an instant solution to the various problems faced in handling of hazardous material by industries today. Film Quality in production is divided into different classes for different applications in their field. This new production process will help us achieve a greater market share in the top two main markets of water soluble film namely the agrochemical sector and the health/hygiene sector which adds up to be around 72% of the water soluble film market.

According to certain research reports the PVA film market is approximately worth 550 million dollars for all water soluble film applications and is growing at approximately 5.2% CAGR.

Agrochemical sector:

World health organization recently in their article to all the agrochemical companies advised as below to ensure safe usage of pesticides using water soluble films:

- "Water soluble packaging is for pesticides that are diluted with water before application. The soluble sacks are put directly into the spray tank where they dissolve and release their contents. There are two main advantages: • there is no operator exposure to the contents, as the packs do not require opening; and • there is no contaminated container to be recycled or disposed of."

- "Water soluble packs should be considered an integral component of the formulation. Pesticide regulations should encourage innovation in package design that improves public safety and reduces the burden on the environment."

Our Company has developed a wide range of water soluble films especially for the agrochemical industry which dissolves completely in water & meets WHO standards (solubility standards) as per CIPAC method without damaging the environment or causing any harm to humans and has no health hazards. Environmental agencies around the world has mandated that many Vector Control actives (like DDT, Lambda, Pyrethrins etc), weedicides, herbicides, insecticides etc must be packed in water soluble films. This increases the scope of Watersol™ film market in India and neighboring countries. India has just scratched the surface of this end use. Internationally many agrochemicals are banned unless primarily packed in Watersol™ film, thereby forcing Indian manufacturers supplying agrochemical in finished form to those companies to pack their product in Watersol™ film. As Indian companies focus on exports of their agrochemicals, the demand for Watersol™ film as compulsory packaging, mandated by environmental agencies such as United States environmental protection agency, will come to fore, and applications to CIB will increase and thereby increasing the demand for Indian Watersol™ film.

Health hygiene sector:

The potential of Watersol™ film in the health and hygiene industry cannot be overstated. In a field where hygiene, safe disposal and proper use are non-negotiable, Watersol™ film can be used as disinfectant laundry bags and as capsule packs.

The Watersol™ laundry bags is an optimum precautionary product that enables those who handle soiled linen to isolate, store, transport and clean washable dirty items. The bags can be used as integral liners in collection containers or as independent storage bags for soiled or contaminated items in medical care, such as used continence pads or bed linen, prior to laundering, thus minimizing the risk of cross contamination or direct exposure to waste materials or body fluids mainly in hospitals.

These laundry bags ensure complete protection to patients as well as hospital staff as they need not be opened again and be directly put in the wash, thus preventing exposure of contaminant to the environment.
In the hygiene division Arrow Greentech limited has developed a new cast Water Soluble film which is used for manufacturing water soluble detergent filled capsules. These capsules can be either be incorporated within the WSF laundry bags as precise portion packs (Solopacs™), or the same Solopacs™ can be used in any household applications such as washing machines, dishwashers, glass cleaners etc.

These capsules are soluble sachets that can provide capsule packaging for a wide range of applications. The Cast Water Soluble Capsules can store medical or household powder or liquid products safely thus ensuring convenient storage, high accountability, safe transportation, while also maintaining environmental standards, as these biodegradable products dissolve completely without leaving behind any residue and consequent environmental risk.

We at Arrow Greentech limited are aiming to be the biggest supplier of Watersol™ Film in the coming years with expanding our production needs to meet the worlds requirement.

B. Arrow Care Division:

After last year tie-up with Careli, Spain and successful result in test marketing Arrow was quick to tie up with Proquimia, Spain. Proquimia is the mother company of Careli with over 50 years of experience in cleaning and hygiene chemicals. Arrow’s Klenz Pro is a dedicated brand that provides Eco labeled Cleaning and Hygiene Chemicals for the institutional market. We cater to Hotels, Pharmaceutical plants, Manufacturing industry, Auto Mobile Industry, Corporate offices, facility management companies etc. We provide a customized mix of Eco friendly chemicals that helps our client attain top quality results at affordable price points.

Klenz Pro has a total of 19 products already introduced in the market and plan to expand the range to about 70 products before the end of 2016-17. Upon show casing the Arrow’s Klenz pro range of product at the Clean India exhibition held in the month of January, we gathered a huge response from the market due to the innovation employed in the product as compared to the conventional cleaning technology.

Our Marketing and launch Strategy along with quality built products made us win the “Best Innovative Chemical Product in India “Which is a great start. Not to forget, India is a very different Market compared to Europe and the facts like uneducated and unskilled staff along with costly logistic support makes Pre Dosed Capsules a game changer in the industry. Benefits likes Time management, Waste management, Space saving, low logistic cost and Supreme European Standard Quality makes us stand out when compared to our competition.

The past few months have been clearly designated to build a strong Distribution and Sales team which will help our long-term vision. We have now a very strong and rapidly growing network and cover regions like Maharashtra, Gujarat, Delhi, Rajasthan, Goa, Karnataka & Kerala. The sales team began to target potential clients from the Hospitality, Corporate & Industrial sectors, giving them demonstrations of our product & explaining the application & quality of the product. We managed to find success in providing these potential clients with solutions to their numerous problems with concern to cleaning & hygiene.

C. Security Products:

Arrow has been granted many patents in security field. This relates to patents used for brand protection and goes well up to high end security products like Passports, Bank Notes and security paper. Presently, Arrow is in the process of forming strategic alliances with some of the world's best in the field. Building strategic alliances and going to market, which is well protected by cluster of IP, is the strategy that Arrow has successfully executed in the past and intends to continue doing the same in the future. The security division of Arrow has been bifurcated into medium end products and higher end products catered to Government business division with their cutting-edge technology. There will also be cross selling between two divisions. E.g. WSF Division can add value to customer's brand, by convincing them to pay little extra and protect their brand. Another example is known as “protecting and control of grey marketing”. This is done by adding track and trace elements within the WSF and tracking FMCG products like Detergent capsules, Dishwasher tablets etc.

As IPR becomes important to Indian FMCG products and grey market diversion may become rampant, brand protection will gain importance and Arrow will be in the forefront to offer sharp solutions. Arrow has several patents in this security cluster and intends to create revenues in the coming years. Many of the European and Australian FMCG companies have been approached for propagating this technology. Track and trace solutions embedded in Printed WSF for detergent pods or Dishwasher Tablets are some of the products which Arrow will be looking at for commercializing via this patent. This year we hope to add more companies to ensure that their brands are protected while using our patented product as an exclusive supply chain vigilance system.
D. Patents and IPR SBU:

IPR is an important revenue stream for any Company. Arrow has spent reasonably heavy amounts of money in R&D and filing of patents in the last couple of years. This year, Arrow has been granted a patent in Australia, for **Method of Manufacturing Embedded Water Soluble film Carrier** which has been successfully prosecuted and a grant has been secured. Arrow till now has received 3 patent grants in Australia. In all we now have 31 granted patents nationally and internationally. Some of these patents have changed the way and many Detergents, Pharma and Agro chemical products are being packaged and delivered. For example the Self Destructive Irreversible Security Packaging Water Soluble Film launched earlier has captured the interest of the Agrochemical Industry. This patent is now being showcased to major laundry detergent pods manufacturers to protect their brands. Arrow UK has hired the services of human assets, in commercializing WSF with this enhanced feature and AIPT has taken one more firm on consultancy basis to find more opportunities in marketing our Health and Hygiene patent portfolio. We are in continuous discussions with Companies on various patent revenue models.

Your company has a clear chart and a clear mandate to focus on two revenue streams—viz, Tangible assets (manufactured goods, with touch and feel which can make a difference to lives of millions of people) and Intangible assets (Patents which can be out licensed (Arrow owned Patents) or inlicensed (e.g. Misapor) and using our years of experience, commercialize these assets, to generate revenues). Intellectual property is one of the most important intangible assets that differentiate your Company from other smaller competition; with protected core technology in the form of patents one has nuggets of wealth at the centre of the business. The patents are value creators for the Companies as they can be licensed, sold, assigned or cross licensed, so having a strong patent portfolio enables a Company to be royalty earner than royalty payer.

Patents protect company’s own product lines against infringers and sometimes create a windfall profit, when the law suits are successfully prosecuted. This then result in continuous royalty income, besides one time fees as granted by the Courts. Your company has proposed to DSIR (Department of Sciences and Research), department of TDB (Technical Development Board), for assisting us in creating pilot production for these families of patents. This patent incubation centre, will be mainly focusing in creating proof of concept and pilot production centre. Scale up of these pilot projects will then allow your company to compete in the International arena, as our management is convinced that IP is the only way to leap forward in this globally interconnected world. Products produced by these patented processes are protected against infringements/duplication for 15 to 20 years.

In future, Arrow proposes to enter crop protection using a different version of this patented process and patented product. As India starts it’s vision into providing food grains for the world population, the need for low pesticides residue will be very important.

E. Arrow UK Activities:

Arrow UK operation (which includes three companies i.e. Arrow Green Technologies (UK) Limited, Advance IP Technologies Limited and Arrow Realty Limited) is continuously major contributor to our topline and bottomline. Revenue is primarily contributed by royalties from patents. UK laws allow all IP related income to be taxed at a lower rate bracket, so Arrow UK will gain monetary advantage in this process. Recently we have made investment in manufacturing facility in UK and we are expecting to expand our foot print in European water soluble film market.

F. Export Division SBU:

Arrow's quality of **Watersol™** film has opened various export markets, including Brazil, Latin America, Europe, and Asian markets. We expect better revenues from Export of Agrochemical and detergent based **Watersol™** film to add to top line and bottom line, going forward with our new expansion in the production line.

Exports of our products have increased but there is a potentially unlimited and untapped market worldwide. Arrow is one of the major players in cast water soluble films and each manufacturer of cast water soluble film have unique methods of production of these films and have earned patent protection. The solubility of the film is related to the product being packed, so custom based **Watersol™** film and ageing period is needed to fully certify the package. Arrow’s experience in coatings chemistry, earned them a patent for a unique multilayered barrier coated **Watersol™** film. This invention helps in proposing the right product to the clients and entering their permanent supply chain. This year should give a positive impetus to our export sales. With new investments in automated technology, Arrow is now geared to produce International quality of films as well as increase the quantum to satisfy the ever increasing hunger for **Watersol™** film (water soluble films).
**2. Opportunities:**

Going green is becoming increasingly attractive as a business strategy. Scientists and politicians today debate on the effects of global warming and dwindling natural resources, green industry practices income of a lower carbon footprint, but increased cost savings, supportive government policies, and ever-increasing profitability as well. Trends in consumption, government policy, and costs all point towards even more green industry business opportunities in the years ahead.

Within this sector there are a number of ways to take advantage of the green business movement, from green technology, to green packaging, to cleaning material and services that use eco-friendly products, and dozens of concepts in between.

Green industry methods are on the rise because they are increasingly demanded by consumers, sought after by shareholders, and required by governments. Sustainable business practices acknowledge the finite resources available and reduce costs through renewable and reusable inputs; they attract niche customers early and have enormous potential to grow into the mainstream.

Need for non-soluble Bio Compostable Plastics is gaining attention now. The threat of flooding has resulted in the realization that Bio-Compostable Films as preferred material to save the cities from flooding. The need for Bio-Compostable film and Bio-Degradable film to save the environment is now present universally and environmentally conscious people of planet earth are looking at various ways to improve the quality of life. We expect to cash in on this opportunity by promoting and leveraging our venture with Sphere, France.

**Bio Compostable Products:**

With increasing concerns over the use of plastics, sustainable alternatives to plastics are increasingly in demand. Plastics made from petrochemicals are not a product of nature and cannot be broken down by natural processes. Arrow Greentech's foray into biocompostable film will be a game changer in terms of ways packaging is being done conventionally. It would eliminate the waste woes and package the product securely without causing any alteration w.r.t. the changes in external environment. We have in-licensed the technology for biodegradable bioplastics from Sphere, France that is compliant with the European standards. It is 100% bio-compostable, made from renewable plant resources (potato starch, polyactic acid etc) and has a diverse range of applications such as garbage bags, disposable dishes and carrier bags. Sphere's expertise in bioplastics and Arrow's water soluble film technology together would revamp the packaging with sustainable solutions.

Some of the proposed products such as Arrow Tea-Coffee portion packs, aluminum foil when laminated inside with bio compostable film will provide dual advantages of heat blockage inside the packaged material and sustainability. Similarly, it has applications in jute hessian bags.

Conventional Tetra Packs packaging is composed of the layers of PE, aluminum, PE and paperboard. Arrow Pack is conceived on Arrow's ingenious hot water soluble film technology that would deftly replaces all layers of PE providing heat preservation inside. Hot water soluble packaging is recyclable in hot water centrifuges and is food grade product. There is reduced risk of transfer of Bisphenol-A, a toxic chemical into food products and their subsequent consumption by humans.

With new restrictions of maximum ceiling on exports of garments on China being imposed by EU and USA, along with anti-dumping duties this business is bound to come to India and neighboring countries. With recent shutdowns in Bangladesh and cost revisions in China, the demand for garments will go up. India meanwhile has built huge capacities in composite garment manufacturing units and the demand for our Embroidery film (Watersol™ film) will show an uprend in the future. Distribution channels for exports have been further broadened by appointment of agents in Sri Lanka, Bangladesh, Thailand, Malaysia, Indonesia, Cambodia, Vietnam and Myanmar. These are the emerging garment business hubs along with traditional markets like Africa, UAE and Turkey.

**G. Water soluble edible film:**

This technology is a relatively new development, but broadly based on water soluble film technology, which also allows small quantities of active ingredients to be delivered in a user-friendly format. Adapting existing products such as oral sprays, liquids or tablets, or exploiting entirely new opportunities, Edible film division will work closely with clients to create the most effective thin film product and process solutions. As you may be aware, that this patent has now been granted in several countries, including Australia, South Africa, Europe and India. This patent is still being prosecuted in the USA.

Taking advantage of the patented technology, our Company is in the process of securing partner(s) in the field of Pharmaceuticals and Nutraceuticals for entering into this highly lucrative and IPR sensitive field of saving human and animal lives. These are long term revenue generating fields that your Company is targeting using our Patents and knowledge acquired over the years. Both these ventures will mean additional Capital expenditures and your Company is planning this ahead of time. Arrow’s water soluble edible film foray will be limited to the use of its patented drug (Active) delivery system, using edible Water Soluble Film.
Arrow's embroidery specific Water Soluble Films save time, money and environment.

Introduction of Schiffli embroidery film will replace the chemical lace fabrics (which are environmentally harmful) and will result in more demand for our Watersol™ film.

3. Threats:

Threats include non-specified materials (like blown films) from China, compelling us to keep our prices low and resulting in inability to make higher margins. Illegal Imports of our patented products like Soap Film, edible film etc., from China and other countries, and the inaction or delayed action by various government, judicial and non-judicial departments in our country, to stop these imports.

4. Internal control system and their adequacy:

Our Company has a proper and adequate system of internal controls to ensure that all assets are safeguarded and protected against loss from misuse or disposition and that transaction are authorized, recorded and reported correctly.

Audit Committee continuously reviews the adequacy and efficacy of the internal controls. The internal control is designed to ensure that the financial and other records are reliable for preparing financial statements and other data, and for maintaining accountability of assets.

5. Material developments in human resources/industrial relations front, including number of people employed:

It is envisioned that human resources will play a very important part in the growth of the Company as all the products, patents and product application are Niche in themselves. Therefore the quest for building a dedicated team is on which will foster the growth of the Company at an exponential rate. The human resources required are not readily available for the basket of niche products of the Company and hence they need to be moulded overtime so that not only the individuals grow but it is profitable to the business. The Company is now in the process of positioning Business Managers who will grow individual product lines while growing themselves.

6. Cautionary statement:

This analytical report contains forward-looking statements. Arrow may also make forward-looking statements in our periodic reports to the Stock Exchanges as per prevalent rules and in its annual report to shareholders, in its proxy statements, in its offering circulars and prospectuses, in press releases and other written materials and in oral statements made by its officers, directors or employees to third parties. Arrow assumes no obligation to update the forward-looking statements in this release and elsewhere. Statements that are not historical facts, including statements about our beliefs and expectations, are forward-looking statements. Forward-looking statements involve inherent risks and uncertainties. A number of important factors could cause actual results to differ materially from those contained in any forward-looking statement.