



Sanitary Napkins & Personal Hygiene Lines – Complete Turn-Key Business Proposal

Executive Summary

Afghanistan imports the vast majority of its disposable hygiene products – from sanitary napkins and tampons to baby and adult diapers and wet wipes. This proposal outlines a **complete turn-key solution** to establish an integrated manufacturing facility for feminine care and personal hygiene products. By combining **state-of-the-art machinery, expert engineering services** and **comprehensive operator training**, the project allows investors to rapidly enter this high-growth market while meeting international quality and safety standards.

Key highlights of the proposal include:

- **Production range:** Modular lines capable of producing ultra-thin, maxi/fluff and night sanitary napkins; panty liners; digital and applicator tampons; baby diapers (tape style and pull-ups); adult diapers and incontinence pads; medical underpads; wet wipes; and specialty items such as breast pads, sweat pads and pet training pads.
- **Capacity:** 200 – 400 pieces per minute per line, depending on product type and level of automation.
- **Investment range:** US \$100,000 – 500,000 USD for a multi-line facility, including equipment, installation, commissioning, training and working capital. Individual single-product lines start around US \$50 000.
- **Payback period:** 18 – 30 months, assuming 70 % utilisation in a single-shift operation.
- **Market opportunity:** Rapid urbanisation, a young and growing population and rising awareness of feminine hygiene drive demand for disposable products. Local manufacturing can replace costly imports and open export markets in neighbouring Central Asia and the Middle East.

With the support of Sanaatchi Industrial Vision, investors will receive a fully operational facility – from factory layout and utilities planning to sourcing, shipping, installation and after-sales service – enabling them to focus on marketing and sales.

About Sanaatchi Industrial Vision

Sanaatchi Industrial Vision is Afghanistan's premier provider of turn-key manufacturing solutions. Our motto – “**Your vision, our expertise**” – reflects our commitment to transforming your concept and capital into a successful industrial operation. From feasibility studies and plant layout to global sourcing of equipment and comprehensive training, Sanaatchi oversees every stage of factory development. Clients define their production goals, and we deliver the entire project on time and on budget.

We operate through **four integrated phases**:

1. **Engineering & Design:** Technical and economic feasibility studies, site selection, utility planning and conceptual/basis of design for the chosen production lines.
2. **Global Sourcing & Logistics:** Identification and vetting of world-class suppliers in China, Turkey and Europe. We manage procurement, quality inspections and international shipping.
3. **Implementation & Construction:** Civil works supervision, equipment installation and utility connections. Our project managers coordinate all contractors and ensure adherence to GMP and safety standards.
4. **Commissioning & Support:** Pre-commissioning tests, trial production runs, and comprehensive training of operators and maintenance staff. After commissioning, we provide on-call technical support and spare parts supply.

By entrusting your project to Sanaatchi, you gain access to a multidisciplinary team of engineers, project managers and regulatory experts who will deliver a fully operational factory that meets **ISO 9001**, **ISO 13485** (for medical devices) and **Halal** standards.

Market Opportunity in Afghanistan

Afghanistan's market for disposable hygiene products is in its infancy. Today, nearly all sanitary napkins, tampons, diapers and wipes are imported from Turkey, Pakistan, the United Arab Emirates and Western countries. This creates a lucrative opportunity for domestic production:

- **Changing consumer habits:** Urbanisation and increasing participation of women in the workforce are shifting preferences toward convenient, ready-to-use personal care products. Ultra-thin sanitary pads and tampons provide mobility and comfort that traditional methods cannot.
- **Young and growing population:** Around 65 % of Afghans are under 25 years old, with high fertility rates. The need for baby diapers and children's pull-ups will continue to rise.

- **Import substitution and price competitiveness:** High import duties and logistical costs make imported hygiene products expensive. Local manufacturing reduces landing costs and allows for competitive pricing while maintaining margins.
- **Public health and nutrition:** Government and NGO programmes promoting menstrual hygiene and maternal health create demand for affordable, high-quality pads and postpartum products. Fortification opportunities (e.g. vitamin-infused wipes) can differentiate local brands.
- **Export potential:** Producing under Halal certification opens neighbouring markets in Central Asia, Pakistan and the Middle East, while adhering to CE and ISO standards positions the products for international distribution.

Product Portfolio

The facility will be equipped with modular lines capable of producing a wide range of feminine care and personal hygiene products. Each product can be customised with different sizes, absorbency levels, fragrances and packaging formats.

Product Category	Key Features	Target Market	Typical Price Range
Sanitary Napkins – Ultra-thin / Maxi / Night / Maternity / Panty Liners	Multi-layer construction with pulp or air-laid cores, super-absorbent polymer (SAP), non-woven topsheets and breathable backsheets. Options include wings, perfume, herbal extracts and individually wrapped packaging.	Women and girls (mass market and premium segments)	US \$0.02 – 0.07 per piece
Tampons – Digital (non-applicator) & Applicator	100 % cotton or rayon core compressed and wrapped with retrieval string; optional biodegradable cardboard or plastic applicator. Individually wrapped for hygiene.	Women seeking discreet, compact protection	US \$0.05 – 0.10 per piece
Baby Diapers – Tape Style / Pull-ups / Newborn / Swim Diapers	Fluff pulp and SAP core, non-woven top and back sheets, elastic leg cuffs and waistbands. Tape diapers for infants; pull-ups for toddlers; newborn diapers with umbilical cut-outs;	Infants, toddlers and parents	US \$0.07 – 0.20 per piece

Product Category	Key Features	Target Market	Typical Price Range
Adult Diapers & Incontinence Pads / Pants	swim diapers with water-resistant cores. High-absorbency cores with odour control, breathable backsheets and easy tear-away side seams. Available as tape-style diapers, pull-up pants or thin pads.	Elderly people, patients with incontinence	US \$0.20 – 0.50 per piece
Underpads / Bed Mats	Large absorbent pads with waterproof backsheet used on beds or examination tables.	Hospitals, nursing homes, pet owners	US \$0.30 – 1.00 per pad
Wet Wipes – Baby, Intimate, Antibacterial, Makeup Removal, Flushable	Non-woven substrates impregnated with purified water, moisturisers, mild surfactants and preservatives. Options include antibacterial agents, pH-balanced formulas and biodegradable materials.	Households, personal care consumers, hospitals	US \$0.01 – 0.05 per wipe
Breast Pads / Sweat Pads / Wound Dressings / Pet Training Pads	Specialty absorbent pads made from multilayer composites with adhesive strips and breathable films. Wound dressings may include antiseptic coatings.	Nursing mothers, athletes, hospitals, pet owners	US \$0.05 – 0.30 per pad

Manufacturing Process Flow

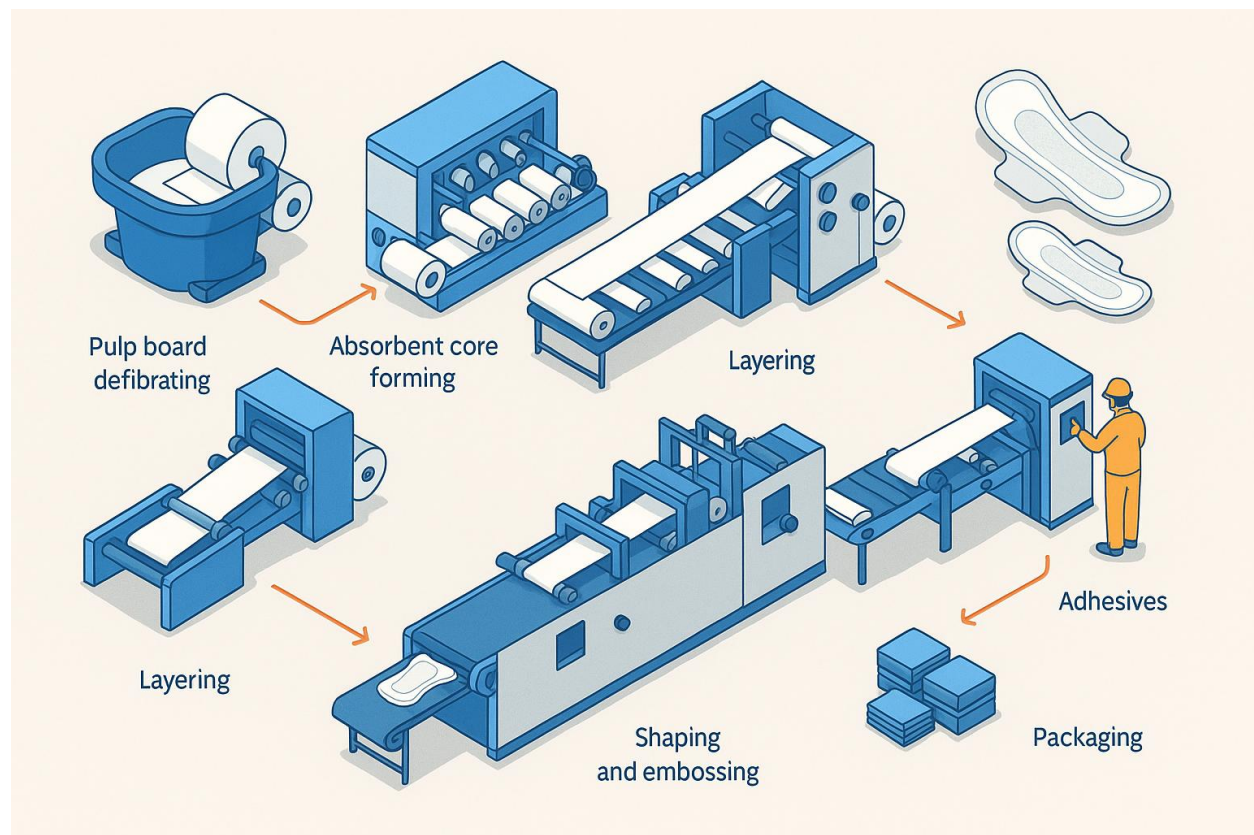
The production of disposable hygiene products involves several core processes that can be adapted to each product type. The facility will house dedicated lines for sanitary napkins, tampons, diapers and wet wipes. Each line integrates raw material handling, core formation, layering, embossing, shaping, quality control and packaging.

Sanitary Napkin Production Line

Below is an overview of the manufacturing steps for ultra-thin and maxi sanitary napkins. A high-level illustration of this process is shown in **Figure 1**.

Step	Process Name	Key Equipment	Main Parameters
1	Pulp Board Defibrating	Pulp defibrator with hammer mill and dust extraction	Pulp fibre size 0.5 – 2 mm; throughput 300 kg/hr
2	Absorbent Core Forming	Air-laid or fluff forming machine with SAP dosing	Forming speed 200 – 300 m/min; SAP ratio 10 – 30 %
3	Layering & Lamination	Topsheet/bottom sheet unwinders, adhesive applicator, transfer rollers	Tension control ± 3 N; hot-melt adhesive 30 – 40 g/m ²
4	Shaping & Embossing	Rotary die-cutting and embossing station	Cutting pressure 1 – 2 MPa; embossing depth 0.5 mm
5	Adhesives & Release Paper Application	Glue spray system and silicone release paper unwinder	Glue viscosity 2 000 – 3 000 cPs; application width up to 80 mm
6	Folding & Individual Wrapping	Tri-folding device and wrapping machine	Folding accuracy ± 1 mm; wrapping speed 200 pieces/min
7	Quality Control & Metal Detection	Optical inspection and metal detector	Reject any defective pads or metallic contaminants
8	Packaging	Automatic stacker and bagging machine	Bag count programmable (10 – 30 pads per bag); sealing temperature 150 – 180 °C

Figure 1 – Sanitary napkin production flow



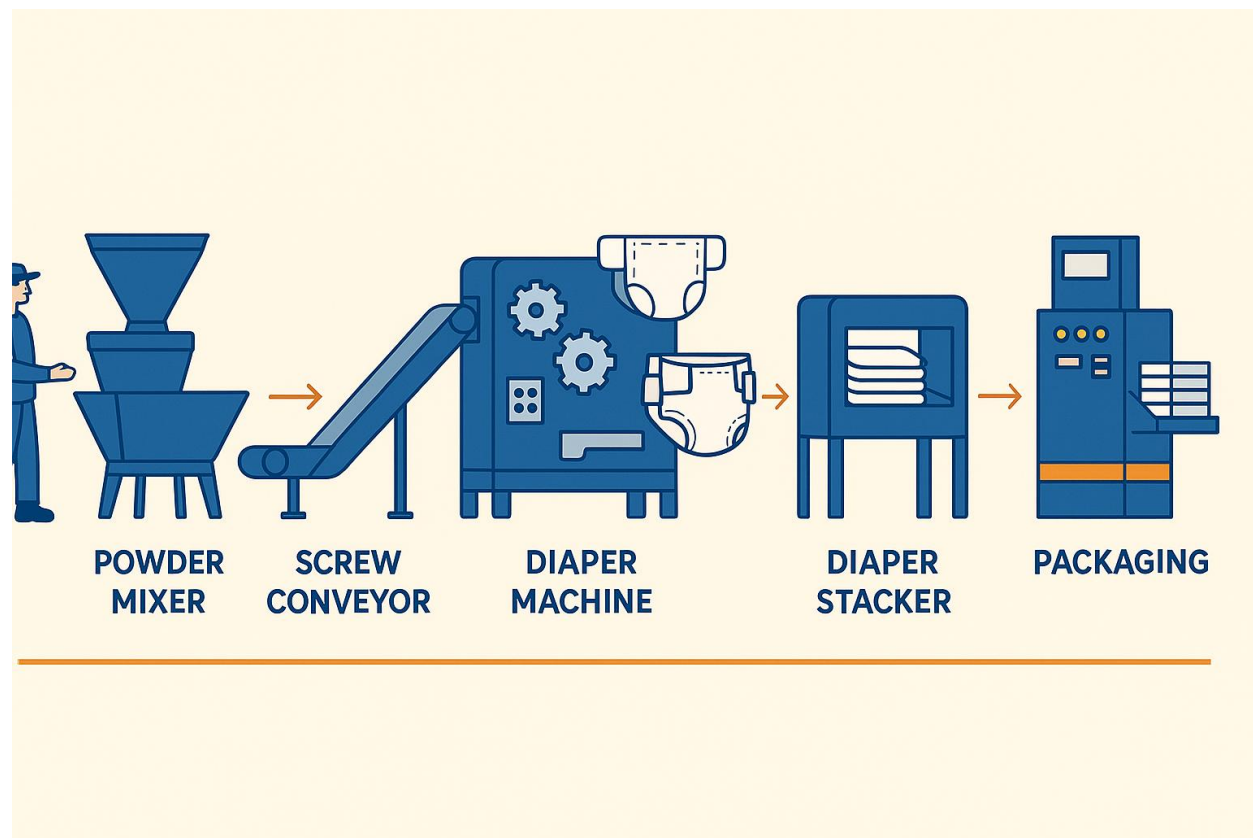
Sanitary napkin production flow

Baby Diaper Production Line

The diaper line shares similar core-forming and lamination technology but incorporates elastic waist and leg components. The simplified process is illustrated in **Figure 2**.

Step	Process Name	Key Equipment	Main Parameters
1	Fluff Pulp Defibrating & SAP Dosing	Hammer mill, SAP feeder	Pulp fluff size 1 – 2 mm; SAP ratio 25 – 35 %
2	Absorbent Core Forming	Core drum former with tissue wrap	Core length 280 – 500 mm; density 0.08 g/cm ³
3	Lamination & Elastic Attachment	Topsheet/backsheet unwinders, elastic applicator, side tape applicator	Elastic tension 10 – 50 N; hot-melt adhesive 35 – 45 g/m ²
4	Shaping & Cutting	Rotary cutter for tape style or pull-up design	Cutting tolerance ±1 mm; servo-controlled step length
5	Stacking & Packaging	Stacker, bagger and sealing unit	Stack height 10 – 20 diapers; packaging speed 30 – 60 bags/min

Figure 2 – Baby diaper production flow



Baby diaper production flow

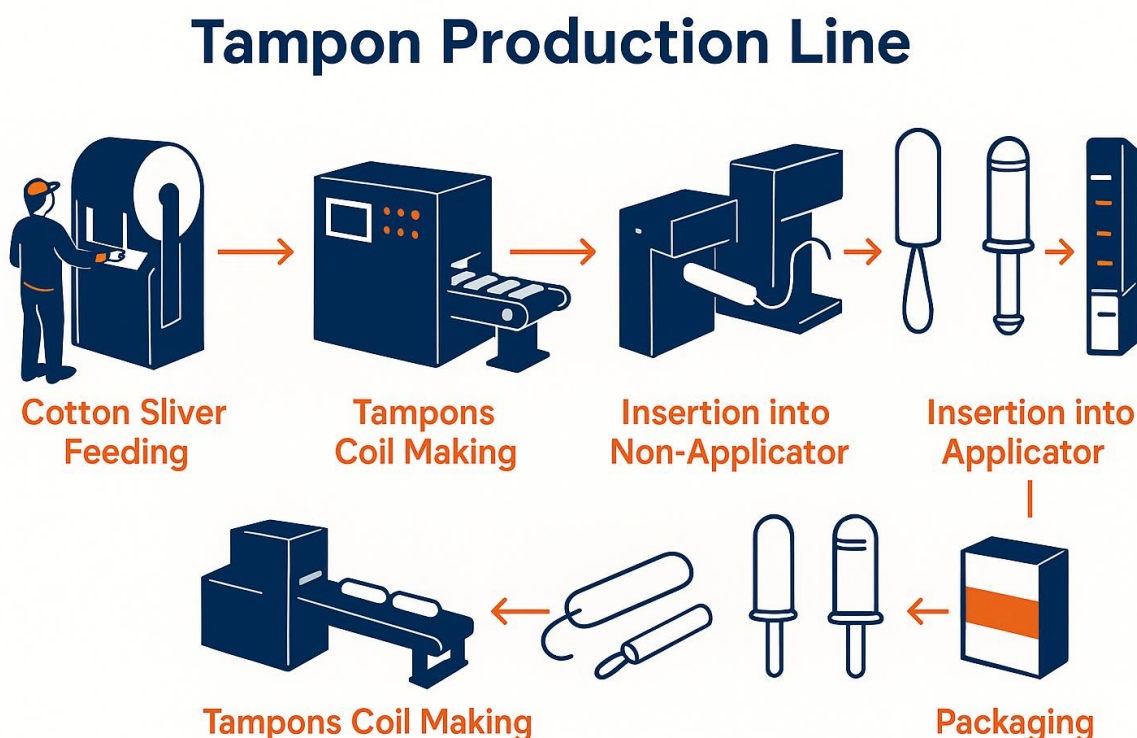
Tampon Production Line

Tampons are produced by carding cotton or rayon fibres into slivers, forming a compressed core, attaching a retrieval string and optionally inserting the core into an applicator. See **Figure 3**.

Step	Process Name	Key Equipment	Main Parameters
1	Cotton Sliver Formation	Carding and drawing machine	Sliver weight 20 – 30 g/m; moisture 6 – 8 %
2	Core Forming & Compression	Tampon coil winder and press	Compression pressure 8 – 12 MPa; length 50 – 55 mm
3	String Attachment	Knot-tying and threading device	String strength > 5 N; insertion depth 25 – 30 mm
4	Applicator Insertion (optional)	Two-piece cardboard or plastic applicator forming unit	Applicator outer diameter 12 – 14 mm; length 70 – 75 mm

Step	Process Name	Key Equipment	Main Parameters
5	Wrapping & Packaging	Heat-sealing flow wrapper	Seal temperature 160 – 190 °C; speed 300 pieces/min

Figure 3 – Tampon production flow



Tampon production line

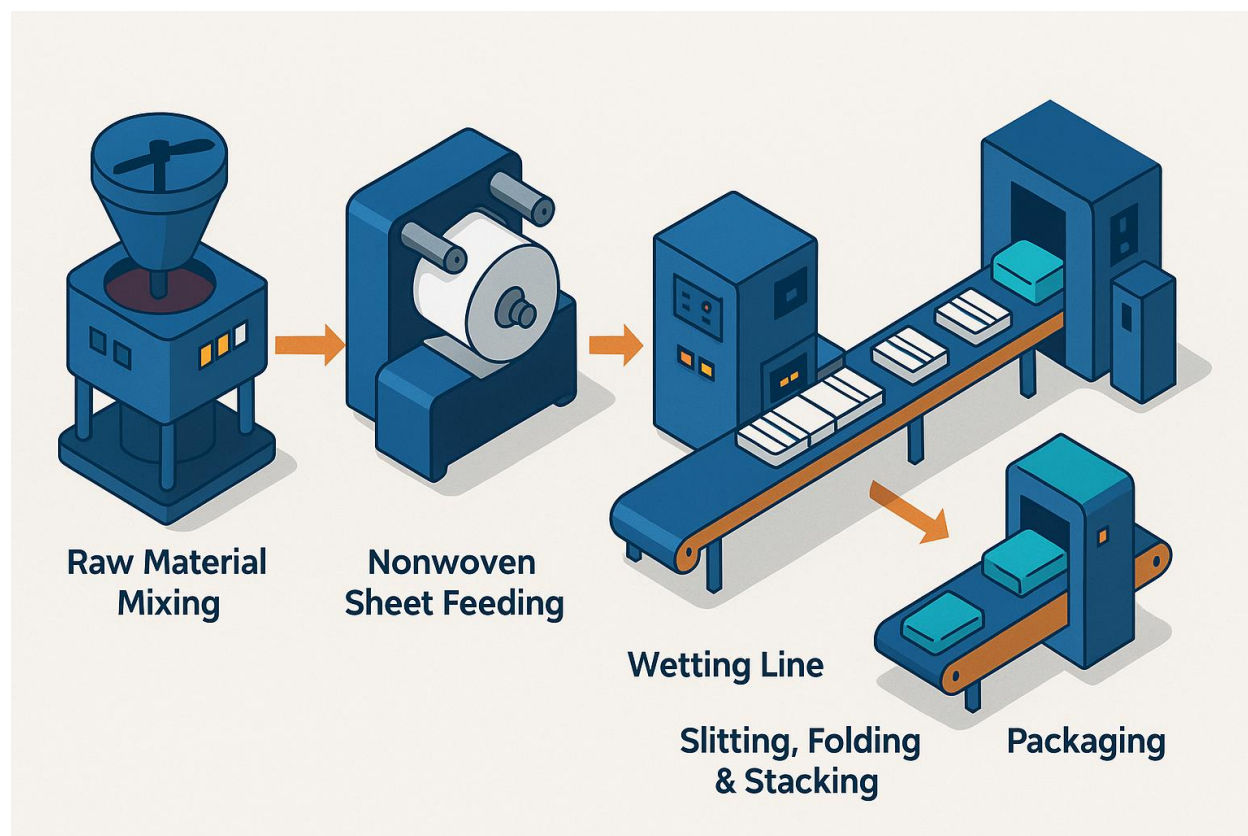
Wet Wipes Production Line

Wet wipes are produced by impregnating non-woven rolls with a water-based lotion, followed by slitting, folding and packaging. The process is summarised in **Figure 4**.

Step	Process Name	Key Equipment	Main Parameters
1	Lotion Preparation	Stainless steel mixing tank with heating and agitator	Batch volume 300 – 1 000 L; agitation speed 100 – 200 rpm
2	Non-woven Unwinding	Non-woven roll stand with tension control	Roll width 200 – 800 mm; tension ± 5 N
3	Impregnation & Wetting	Impregnation machine with metering pumps	Lotion add-on 200 – 350 % of dry weight

Step	Process Name	Key Equipment	Main Parameters
4	Slitting, Folding & Stacking	Slitter with folding comb and stacking device	Sheet length 150 – 200 mm; pile height 20 – 80 wipes
5	Packaging	Horizontal or vertical flow wrapper; optional canister filling	Bag count configurable; nitrogen flushing for shelf life

Figure 4 – Wet wipes production flow



Wet wipes production line

Raw Materials & Cost Analysis

Producing disposable hygiene products requires high-quality raw materials sourced from reputable suppliers. The main components include:

- **Fluff Pulp and Air-laid Pulp:** Derived from bleached softwood or bamboo and used as the absorbent core. Cost varies from **US \$1 000 – 1 500 per tonne** depending on grade.
- **Super-Absorbent Polymer (SAP):** Acrylic-based powder or granules that absorb liquids and convert them into gel. Typical usage 20 – 35 % of core weight. Price ranges **US \$1 500 – 2 000 per tonne**.

- **Non-woven Topsheet & Backsheet:** Spunbond, perforated film or air-through bonded non-woven fabrics provide softness and breathability. Thickness 15 – 40 gsm. Cost **US \$1.2 – 2.0 per kilogram**.
- **Adhesives & Elastics:** Hot-melt adhesives for bonding layers; silicone release paper for napkins; elastic spandex or Lycra yarns for diapers and pull-ups; glue cost **US \$2.5 – 4.0 per kilogram**.
- **Cotton or Rayon Fibres:** Used for tampons; average cost **US \$2 000 – 3 000 per tonne**.
- **Lotion Ingredients (wipes):** Purified water, glycerine, surfactants, preservatives and fragrances. Typically **US \$0.50 – 1.00 per litre** depending on formulation.
- **Packaging Materials:** PE/PP film, aluminium-laminated pouches, cardboard boxes and stickers. Packaging cost adds **US \$0.005 – 0.02 per product**.

Cost Estimate: For sanitary napkins, the combined raw material cost is approximately **US \$0.015 – 0.035 per pad**. Diapers range **US \$0.05 – 0.12 per piece**, tampons **US \$0.02 – 0.05 per piece**, and wipes **US \$0.003 – 0.01 per sheet**. With efficient production and bulk purchasing, gross profit margins of **40 – 60 %** are achievable.

Investment Summary & Returns

The total investment depends on product mix, capacity and automation level. A typical multi-line plant (sanitary napkins, diapers, tampons and wipes) requires the following outlay:

Component	Low Range (US)	High Range (US)	Notes
Equipment	100 000	400 000	Sanitary napkin line (~\$250 k), diaper line (~\$350 k), tampon line (~\$150 k), wipes line (~\$150 k). Prices vary by output speed and brand.
Installation & Training	5 000	10 000	Covers travel, visas, accommodation and on-site training of operators and technicians.
Facility & Utilities	30 000	100 000	Includes civil works, HVAC, electrical panels, compressed air systems and water treatment.
Working Capital	50 000	100 000	Raw material stock and operational expenses for the first three months.
Total Investment	1 80 000	5 000 000	Aggregate of the above components.

Implementation Timeline

1. **Months 1–2:** Engineering and factory layout design; procurement contracts signed.
2. **Months 3–5:** Manufacturing of custom machinery; site preparation and civil works.
3. **Month 6:** Equipment shipping and customs clearance.
4. **Month 7:** Installation, utilities hook-up and commissioning.
5. **Month 8:** Trial production runs and staff training.
6. **Month 9:** Commercial launch.

Assuming 70 % utilisation in a single shift, the payback period is **18 – 30 months**. Higher utilisation or premium product positioning can shorten the payback to under two years.

Quality Standards & Compliance

To compete with international brands and qualify for export markets, the production facility will adhere to strict quality management systems and regulatory standards:

- **ISO 9001:** Quality Management System ensuring consistent product quality and continuous improvement.
- **ISO 13485:** Specific requirements for medical devices applicable to tampons, wound dressings and absorbent pads.
- **CE Certification:** Required for export to Europe; ensures products meet health, safety and environmental protection directives.
- **Halal Certification:** Essential for the Afghan and Muslim majority markets, guaranteeing products are free from prohibited substances.
- **GMP & HACCP:** Good Manufacturing Practice and Hazard Analysis Critical Control Point principles, preventing contamination and ensuring product safety.
- **BFR & FDA-Compliant Materials:** Raw materials (film, adhesives, SAP) will be sourced from suppliers compliant with European and US food-contact regulations to ensure consumer safety.

Regular audits, microbiological testing and product performance tests (absorbency, rewet, tensile strength) will be integrated into the quality control programme.

Conclusion & Next Steps

Establishing a diversified **Sanitary Napkin and Personal Hygiene Production Facility** in Afghanistan presents a unique opportunity to capture a growing domestic market, reduce dependence on imports and create high-quality, affordable products for women, infants, patients and households. Sanaatchi Industrial Vision stands ready to guide you through every stage – from concept and design to commissioning and beyond.

Contact us to schedule an initial consultation and receive a custom proposal tailored to your specific capacity and product mix:

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Visit **www.sanaatchi.com** or arrange a site assessment to begin your journey toward local production of world-class hygiene products.