

Wooden Pallet Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real wooden pallet production line equipment.

1 pallet launch design	20-40/h semi-auto entry output	<20% typical dry-wood target	6-10 entry workforce
----------------------------------	--	---	--------------------------------

Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

Executive Summary

A micro/small pallet workshop converting legally sourced, graded wood into repairable stringer or block pallets through timber receiving and moisture/defect grading, cross-cutting, ripping and thickness preparation where required, block/stringer and deck-board sizing, edge treatment, jig assembly, controlled pneumatic nailing, clinching or nail-depth inspection, optional corner cutting/notching, sanding, marking, stacking and buyer load tests. Export pallets require an approved ISPM 15 heat-treatment and marking route.

Why this project fits Afghanistan

- Factories, warehouses, food processors and logistics companies need standard handling pallets.
- Local wood and local labour support a low-entry assembly workshop when sourcing is legal and sustainable.
- One pallet drawing and bill of materials reduce cutting waste and nail errors.
- Export use requires recognized heat treatment and traceable marking, not informal heating.

Sanaatchi delivery scope

- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

Start with one buyer-approved domestic pallet using kiln-dried purchased boards or legally sourced local timber processed to one bill of materials. Use guarded cross-cut and rip saws, thickness planer only where needed, block/stringer cut station, one adjustable assembly table with pneumatic nail guns, compressor, nail-depth controls, corner cutter, stacker and load-test fixture. Add automatic nailing or an ISPM 15 kiln only after repeat volume and certification are confirmed.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Domestic stringer or block pallet	One buyer drawing, timber species/grade, moisture, nail schedule, dimensions and load rating	Factories, warehouses, distributors and local logistics
Export heat-treated pallet	Same structural approval plus authorized ISPM 15 treatment, traceability and mark	Exporters only through a recognized treatment programme

Pallet capacity cannot be claimed from dimensions alone. Acceptance records timber species/grade, moisture, defects, component sizes, nail type/count/location/depth, protrusions, squareness, deck gaps, workmanship, static/dynamic load, forklift handling and repair trials. Any ISPM 15 mark must be issued under the competent authority and validated heat schedule.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Moisture meters and grading tables	Releases legal, suitable timber	Buyer species/grade limits
2	Guarded cross-cut and rip saws	Cuts boards to bill of materials	Dust extracted
3	Planer and block/stringer station	Controls thickness and support pieces	Only required preparation
4	Adjustable pallet assembly jig	Holds one pallet square during nailing	One launch design
5	Pneumatic nail guns and compressor	Installs specified fasteners	Depth controlled
6	Corner/notch and sanding tools	Finishes handling geometry	Buyer drawing
7	Stacker and load-test fixture	Handles and validates pallets	Static/dynamic test plan
8	Optional certified heat-treatment kiln	Treats export pallets	Authority-approved Phase 2

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

Reference Equipment Gallery



Made-in-China supplier reference: real wooden pallet production line equipment.



Made-in-China supplier reference: second real machine configuration for wooden pallet production line.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

Plant, Raw Materials & Utility Requirements

Raw materials

- Legally sourced local or imported wood by approved species/grade
- Specified pallet nails and repair fasteners
- Approved marking ink or brand only for authorized use
- Straps, labels, spacers and saw/nailer spares

Utilities & infrastructure

- Three-phase power and high-capacity compressed air
- Covered ventilated timber and finished-pallet areas
- Wood-dust extraction, fire detection and housekeeping
- Safe saw guarding, push systems and ergonomic handling
- Kiln heat and calibrated sensors only if export treatment is installed

Quality, safety and environmental controls

- Verify legality, species, grade, moisture and defects
- Measure every cut component against the bill of materials
- Check nail count, location, depth and protrusions
- Inspect squareness, gaps, edges and workmanship
- Run buyer static/dynamic load and forklift trials
- Control heat-treatment records and marks where applicable

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

Indicative Investment & Implementation Plan

LOW-ENTRY CONFIGURATION

The lowest credible workshop buys dry sized boards, uses one assembly jig and pneumatic nailers, and sells one domestic pallet. Automatic nailing, certified export kiln, building and timber stock are excluded.

Component	Indicative range	Notes
Saws, planer, dust and timber handling	US\$8k-22k	Purchased dry-board route can be lower
Assembly jig, nailers and compressor	US\$5k-14k	One pallet design
Finishing, stacking and load-test tools	US\$3k-9k	Semi-automatic entry
Freight, installation and spares	US\$4k-11k	Local workshop
Indicative installed low-entry total	US\$20k-56k	Automatic nailing, kiln, building and timber stock excluded

Implementation sequence

Phase 1	2-5 weeks	Confirm product specification, representative raw material, buyer, capacity, site and utilities
Phase 2	3-7 weeks	Run supplier trials with the buyer material and freeze the balanced machine, tooling and utility scope
Phase 3	8-22 weeks	Manufacture or refurbish, inspect, document and ship the contracted equipment
Phase 4	3-12 weeks	Install, commission, train operators and pass material-specific acceptance tests

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

Next Steps & Contact Information

Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

Sanaatchi Industrial Vision Group

Afghanistan Office: +93 779 819 820 | info@sanaatchi.com

China Office: +86 159 5171 6867 | china@sanaatchi.com

Website: www.sanaatchi.com

Research and image references

- <https://gashilimachine.en.made-in-china.com/product/enIRXWlYbkhM/China-Semi-Automatic-Wooden-Pallet-Nailing-Machine-Universal-Pallet-Machine-Video.html>

- <https://leabonmachinery.en.made-in-china.com/product/QwYTSfcvDU/China-Chinese-Automatic-Block-Wooden-Pallet-Nailing-Production-Line-Wooden-Pallet-Production-Line.html>