ILLUSTRATIVE ENGINEERING DOCUMENT

Preliminary Technical Feasibility Assessment

Illustrative scenario: a fictional distribution centre considers automating pallet movements between receiving and production. All quantities and assumptions below are examples only.

01 Decision question

Can a suitable automation concept perform the defined material transport task within the stated operating constraints, and what must be validated before a GO decision?

02 Example input assumptions

Input	Illustrative assumption
Material unit	Standard pallet; maximum combined load 600 kg
Route	140 m between pickup and drop-off
Traffic	Mixed human / forklift traffic; junction controls required
Operating pattern	Two shifts; requested peak throughput 18 moves/hour
Interfaces	One automatic door; one safety-sensitive crossing

03 Technical observations

A preliminary simulation or site study is needed to check cycle time under real traffic. Pallet geometry, pickup tolerance, floor quality, charging strategy, pedestrian separation and system handshakes remain open items.

04 Risk and verification log

Issue	Risk	Validation action
Crossing with forklifts	High	Traffic observation and safety concept review
Door command interface	Medium	Confirm signal protocol and fail-safe state
Peak throughput	Medium	Timed simulation with congestion assumptions

Issue	Risk	Validation action
Pallet variation	Medium	Sample handling tests and pickup envelope

05 Decision logic

Criteria	Provisional assessment
Target process defined	Partially — confirm demand distribution
Safety concept feasible	Pending site survey
Integration effort known	No — door / WMS details needed
Supplier selection justified	Not yet

06 Preliminary conclusion

CONDITIONAL HOLD / FURTHER VERIFICATION REQUIRED. This is not a GO or NO-GO for a real facility. The next stage should establish a validated layout, cycle assumptions, safety concept and integration plan.

07 Proposed client outputs

Site measurement list; scope of operating assumptions; technology shortlist; technical risk log; validation plan; decision memo and proposed next actions.

Professional boundary

This fictional example is an engineering template. It is not an independent safety certification, a compliance declaration or evidence that any particular product can meet the example requirements.