PRINT PROFIT NAVIGATOR

by LOOM2MOON

THE

PRINT PROFIT NAVIGATOR BIBLE

Master User, Methodology & Operating Guide

Screen Printing • DTF • DTG • Automation ROI
Payment Structures • Reports • Nava

EDITION 1.0

Aligned to Print Profit Navigator v1.4.0
6 August 2026

PROVIDED BY LOOM2MOON

EDITION NOTE

How to use this Bible

This is not a single-purpose user manual. It is the shared source of truth for users, sales teams, consultants, product owners and implementation partners.

01 For everyday users

Follow the numbered workflow, complete the field guides, and use the pre-decision quality checklist before relying on a result.

02 For advisers and sales teams

Use the interpretation pages, worked examples and Nava prompt library to explain results without turning estimates into promises.

03 For product and QA teams

Use the calculation principles, benefit ledger rules, pricing governance and release checklist as acceptance criteria.

04 For finance conversations

Use the cash, financing and leasing pages to frame monthly cash flow, payback and assumptions. The tool is not credit approval.

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The golden rule

A polished report cannot rescue weak inputs. Treat every assumption as something that must be measured, sourced or explicitly labelled.

NAVIGATION

Contents

The Bible is organized in the same order as a sound production-investment decision.

NAVIGATION

Contents - continued

Use the final sections as a training curriculum, review framework and product-governance checklist.

01

SECTION

PRODUCT COMPASS

The product is a decision model, not a machine-speed brochure. Start with the operating principles that protect every later result.

PRINT PROFIT NAVIGATOR BIBLE

PRODUCT OVERVIEW

Print Profit Navigator in one page

A deterministic planning application for comparing production methods, modelling automation and evaluating payment structures with editable assumptions.

COMPARE

Screen / DTF / DTG

Cost per sellable garment

MODEL

Automation ROI

Capacity, savings and payback

EVALUATE

Payment structures

Cash, finance and lease

- **Transparent assumptions**

  Defaults are editable. Demonstration data and source status should remain visible.

- **Sellable-output logic**

  Rated speed is converted into realistic output after setup, downtime, efficiency and scrap.

- **No hidden break-even rule**

  The engine evaluates the user’s quantity range and records the lowest-cost method at each point.

- **Professional decision record**

  Reports preserve inputs, scenarios, cost breakdowns, ROI, payment structures and disclaimers.

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What this means

The app should help a shop ask better questions. It should never pretend that one technology is universally cheapest, fastest or greenest.

Who it is for

Different users need different answers from the same model. The interface and report should make the decision context explicit.

PRIMARY USERS

Owner / Managing Director

Needs investment risk, payback, demand limits and cash-flow visibility.

Production Manager

Needs setup, cycle, labor, bottleneck, scrap and sellable-capacity logic.

Estimator / Sales Team

Needs defensible job cost, break-even range and assumptions for client quotations.

SECONDARY USERS

Equipment Supplier

Can model a proposed configuration without presenting a supplier quote as measured shop data.

Finance Partner

Can review payment, cumulative cash flow and the exact assumptions behind the business case.

Consultant / Adviser

Can compare scenarios and challenge missing cost drivers without rewriting the engine.

OPERATING PRINCIPLES

Six principles behind trustworthy results

These are product rules, not optional explanations.

01 Deterministic engine

Numerical outputs come from formulas and entered data. Generative AI must not invent results.

02 Editable assumptions

Every default can be replaced with company, cost, machine or supplier data.

03 Sellable denominator

Scrap and rework are converted back to cost per sellable garment.

04 Benefit ledger

Each economic effect is labelled as included, additional or informational to prevent double counting.

05 Demand discipline

Capacity that cannot be sold is not booked as profit. Demand-limited outcomes are flagged.

06 Non-binding output

The result is a planning aid, not a quote, guarantee, tax opinion, legal opinion or credit decision.

END-TO-END WORKFLOW

The seven-step decision workflow

The sequence matters. A result page is only as strong as the baseline and assumptions entered before it.

01	**Business profile**	Context, volume, work schedule and baseline economics
02	**Job profile**	Quantity, designs, colors, locations, area and personalization
03	**Method costs**	Screen, DTF and DTG fixed and variable drivers
04	**Automation**	Current and target capacity plus incremental costs
05	**Payment**	Cash purchase, financing and leasing inputs
06	**Scenarios**	Base, conservative and upside assumptions
07	**Results**	Method, break-even, ROI, cash flow and report

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A shortcut that backfires

Jumping directly to machine speed or finance terms hides the real question: what is the current shop actually producing, at what sellable cost, under what demand?

CORE VOCABULARY

Definitions that prevent bad decisions

Use these terms consistently in the interface, report and sales conversation.

Attempted print

A garment or transfer that enters the process, whether it becomes sellable or not.

Sellable garment

A finished unit that passes quality requirements and can be invoiced.

Unique setup

A distinct design x colorway x print-location combination, unless manually overridden.

Effective run length

Sellable quantity divided by unique setups; a key driver of fixed-cost dilution.

Rated speed

A machine specification under defined conditions. It is not sellable output.

Realistic output

Theoretical output adjusted for setup, efficiency, micro-stops, maintenance and scrap.

Incremental cost

A cost that changes because of the decision, such as new rent, service or power demand.

Demand-limited benefit

Economic value capped by the number of additional units the business expects to sell.

02

SECTION

START & SETUP

Build a baseline that can survive scrutiny. Account behavior, source status, facility costs and scenario discipline belong before the first comparison.

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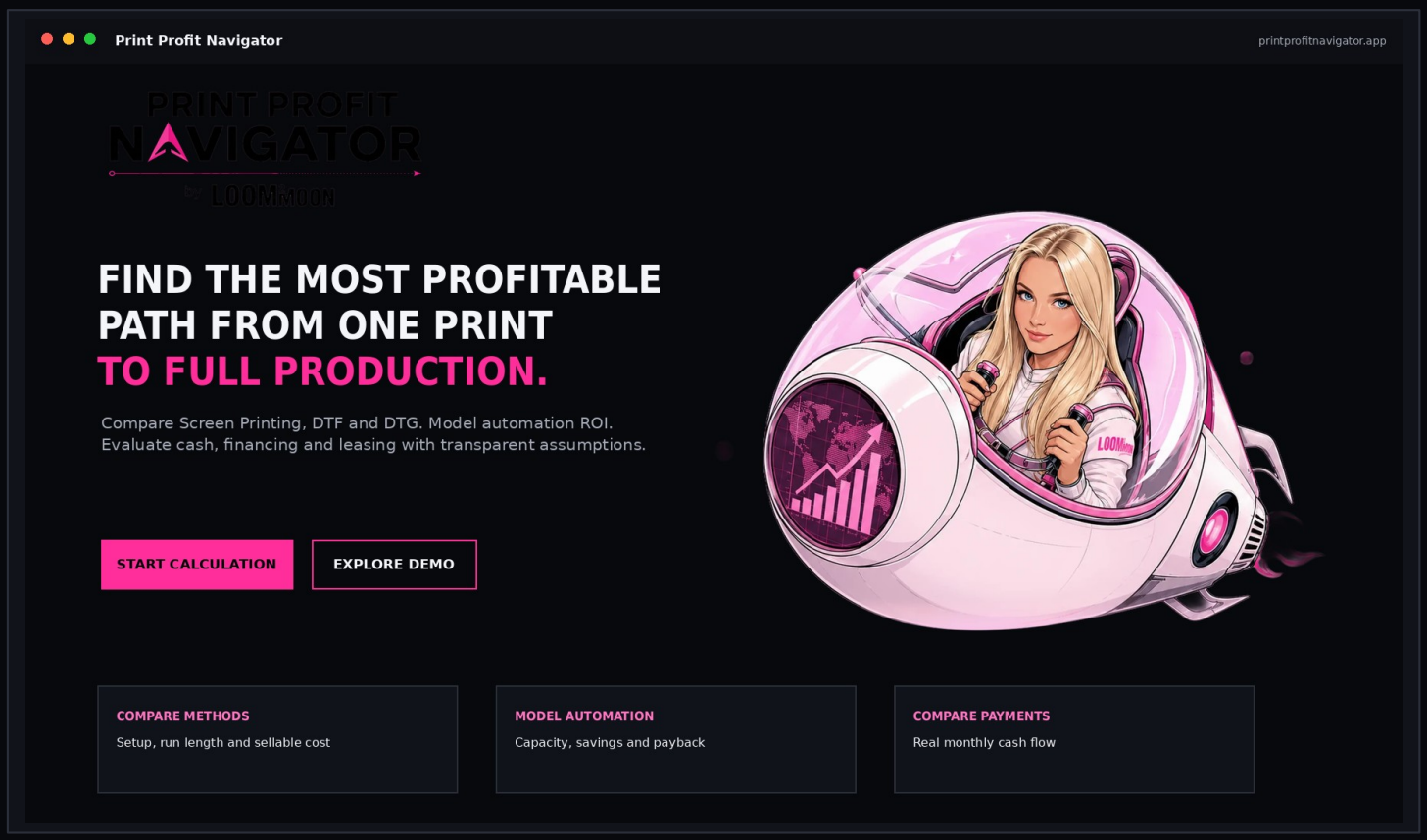
INTERFACE WALKTHROUGH

Start with the decision, not the machine

The home experience frames the product around method comparison, automation economics and payment structures.



Illustrative screen reconstructed from the live v1.4.0 product language and brand assets.

- **Start Calculation**
  Begins the full input workflow.
- **Explore Demo**
  Shows a populated result so users can understand the depth before entering data.
- **Methodology access**
  Transparent formulas and limitations must remain easy to find.

Account, session and project behavior

Inputs can exist locally before sign-in; projects, reports and subscriptions require an account.

BEFORE SIGN-IN

Local session state

Country, language, currency and calculator inputs can be preserved in browser storage.

No account linkage

Without sign-in, local inputs are not linked to a user account.

Browser responsibility

Clearing storage or changing devices may remove unsaved local work.

AFTER SIGN-IN

Cloud projects

Projects, cost profiles and machine profiles can be stored with the account.

Reports and purchases

Orders, allowances, report events and payment status are stored server-side.

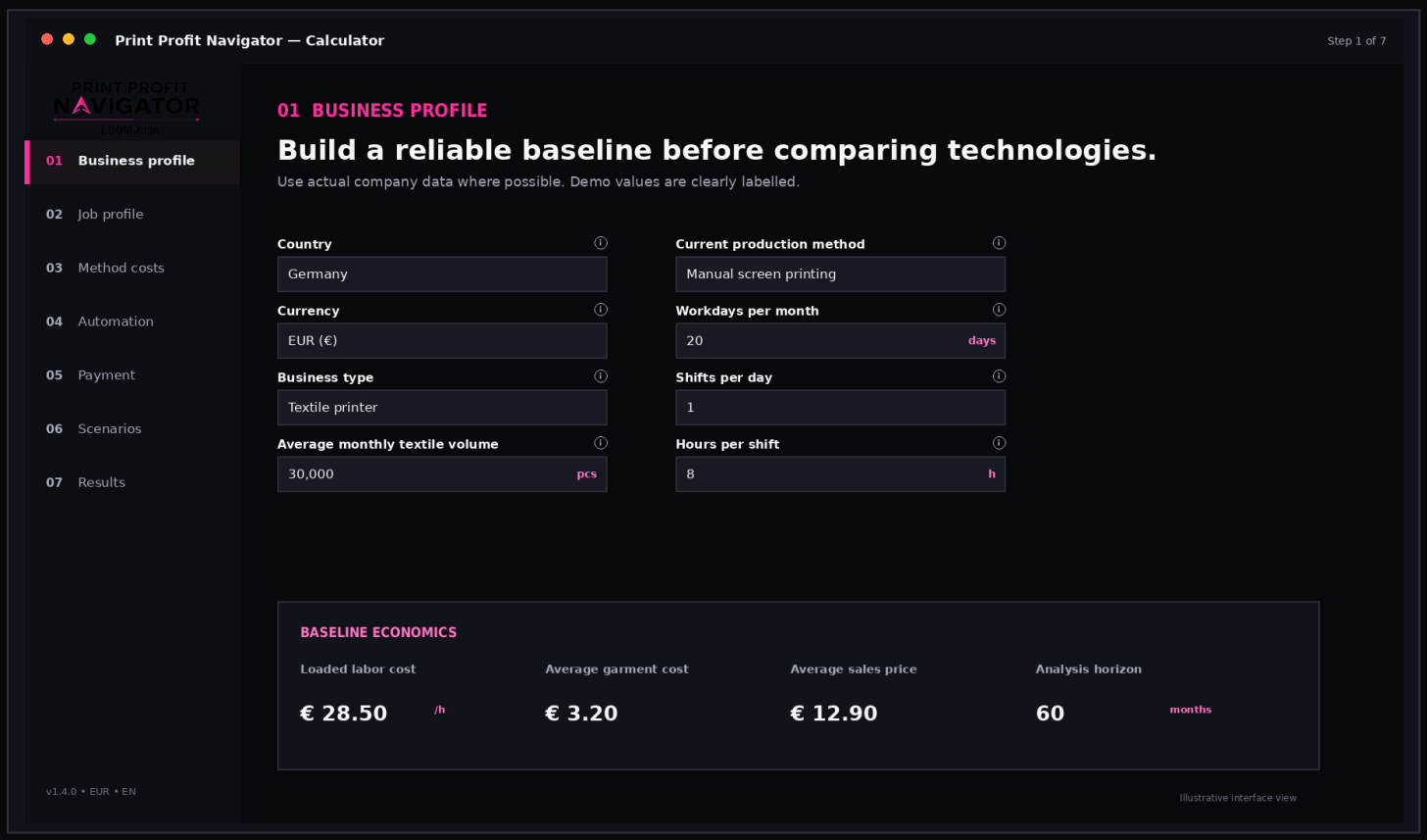
Secure sharing

Read-only project links should be created, scoped and revoked deliberately.

INTERFACE WALKTHROUGH

Business Profile: build the baseline

The first step establishes scale, time, labor and commercial context.



Illustrative screen based on the published Business Profile fields.

- **Use loaded labor cost**
  Include wage, employer contributions and recurring labor burden - not only the hourly wage.
- **Separate garment and print economics**
  Know whether a result is conversion cost, full garment cost or sales-margin analysis.
- **Choose a realistic horizon**
  Use the same horizon when comparing cash, finance and lease structures.

FIELD-BY-FIELD

Business Profile field guide

For every field, know the unit, source and reason it matters.

Field	Best source	Why it matters
Monthly textile volume	12-month production history	Sets scale, utilization and demand context.
Workdays / shifts / hours	Production calendar	Converts monthly demand into scheduled hours.
Loaded labor cost	Payroll + employer burden	Drives setup, handling, maintenance and rework cost.
Garment cost	Purchasing history	Supports full-cost and contribution analysis.
Sales price	Invoice mix by product	Caps contribution from additional sold units.
Current method	Actual process mix	Defines the baseline for savings and migration.
Analysis horizon	Investment policy	Changes cumulative cash flow and ROI horizon.

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Better than an average

Where the business has very different product families, create separate projects or profiles. One blended average can hide the jobs that actually drive the decision.

INPUT GOVERNANCE

Data quality and source status

A number without a source label can look more certain than it is.

MEASURED	Time study, meter reading, production log or verified accounting record.
SUPPLIER QUOTE	Commercial quotation or stated specification. Valid for planning, not proof of shop output.
COMPANY ESTIMATE	Informed internal assumption that should be tested with sensitivity analysis.
DEMO VALUE	Illustrative only. Never present as a benchmark or manufacturer fact.
UNKNOWN	Do not hide the gap. Use a conservative range or stop the decision until measured.

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Source status is not decoration

A supplier-rated speed and a measured sellable speed can both be useful - but they must not be presented as the same kind of evidence.

EXPANDED COST ARCHITECTURE

Facility and overhead costs: what belongs in the model

Include costs that change because of the decision. Allocate shared overhead deliberately and never double count it.

SPACE

- Incremental production rent
- Warehouse / blank storage
- Loading and staging area
- Property or service charges

UTILITIES

- Electricity base and demand charges
- Gas / LPG for dryer
- Compressed air
- Water and wastewater

ENVIRONMENT

- HVAC and make-up air
- Ventilation / exhaust
- Humidity or temperature control
- Noise / air treatment

OPERATIONS

- Cleaning and waste disposal
- Insurance and security
- Software / connectivity
- Calibration and compliance

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Decision cost vs full cost

For ROI, include incremental costs created by the investment. For pricing, you may also allocate shared overhead - but label the allocation method and avoid adding the same cost twice.

SCENARIO DESIGN

Scenario discipline

A single-point estimate invites false confidence. Build a base case and pressure-test the inputs that matter.

CONSERVATIVE

- Lower demand
- Higher scrap
- Slower setup
- Lower runtime efficiency
- Higher utility price

BASE CASE

- Most likely demand
- Measured baseline
- Quoted target data
- Expected staffing
- Current prices

UPSIDE

- Demand secured
- Training complete
- Stable setups
- Low reject rate
- Full workflow adoption

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The most useful question

Which assumption could make us regret the decision? Put that variable in the conservative scenario first.

03

SECTION

PRODUCTION METHOD ECONOMICS

Compare Screen Printing, DTF and DTG on fixed setup, variable process cost, effective run length, waste and sellable output - not on stereotypes.

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CONCEPTUAL FORMULA

Cost per sellable garment

The denominator is the quantity the business can actually sell. Fixed costs, variable costs, scrap and rework all flow into that answer.

1. GROSS ATTEMPTED QUANTITY

Sellable quantity / (1 - scrap rate)

Round according to the engine rules.

2. REWORK QUANTITY

Gross attempts x rework rate

Rework may carry a different cost profile.

3. TOTAL PRODUCTION COST

Fixed order cost + variable cost on attempts + rework cost

Includes labor, consumables, energy, maintenance and equipment allocation as applicable.

4. COST PER SELLABLE GARMENT

Total production cost / sellable quantity

Never divide by attempted quantity when presenting the sellable unit cost.

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A common trap

A low ink cost per print does not guarantee a low cost per sellable garment. Setup, handling, failed prints and idle time can be larger than the ink.

SETUP LOGIC

Setups and effective run length

Order size alone is not enough. The engine counts distinct production setups because fixed costs repeat.

UNIQUE SETUPS

Unique designs x colorways x print locations

A manual override can be used when the real workflow differs.

EFFECTIVE RUN LENGTH

Sellable order quantity / unique setups

This is often more predictive than headline order quantity.

Example	Order	Setups	Effective run
A: one design	300 pcs	1	300 / setup
B: 30 designs	300 pcs	30	10 / setup
C: 30 designs, 2 colorways	300 pcs	60	5 / setup

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Same order size, different economics

A 300-piece order with 60 setups behaves like many tiny jobs. Screen setup cost and registration time do not disappear because the purchase order says 300.

Screen Printing cost model

Screen Printing becomes powerful when fixed setup and registration are spread over enough sellable garments.

FIXED / ORDER LEVEL

Artwork and separations

Prepress work that may repeat by design, colorway or location.

Screens and preparation

Mesh, coating, imaging, reclaim and screen-room labor.

Setup and registration

Press-blocking time, crew size, test garments and correction cycles.

VARIABLE / PRODUCTION LEVEL

Ink and consumables

Ink volume, additives, tape, cleaning materials and other process supplies.

Press and dryer energy

Press, flash, conveyor dryer, gas or electric curing and auxiliary loads.

Labor, yield and maintenance

Loading, unloading, quality, micro-stops, scrap, rework and machine allocation.

DTF cost model

DTF shifts the economics toward film, powder, curing and heat-press handling. Design count is usually less punitive than screen setup.

CORE CONSUMABLES

CMYK and white ink

Driven by image area, coverage, white underbase and printer behavior.

Film

Sheet or roll usage, nesting efficiency, margins and failed transfers.

Adhesive powder

Powder application, recovery efficiency and waste.

PROCESS & OVERHEAD

Curing

Oven power, gas or electric energy, belt speed and warm-up allocation.

Heat pressing

Seconds per transfer, press power, operator handling and batch organization.

Maintenance and rejects

Cleaning, white-ink circulation, nozzle loss, transfer defects and rework.

DTG cost model

DTG is sensitive to print area, white ink, pretreatment, print time, maintenance and curing.

IMAGE & INK

CMYK volume

Coverage, resolution, profile and print area.

White ink volume

Garment color, material, underbase strategy and pass count.

RIP preparation

File preparation, queues, personalization and color management.

PRETREATMENT & CURING

Pretreatment fluid

Application quantity, dilution, overspray and garment compatibility.

Pretreat drying and cure

Heat press or dryer time, energy, labor and workflow bottlenecks.

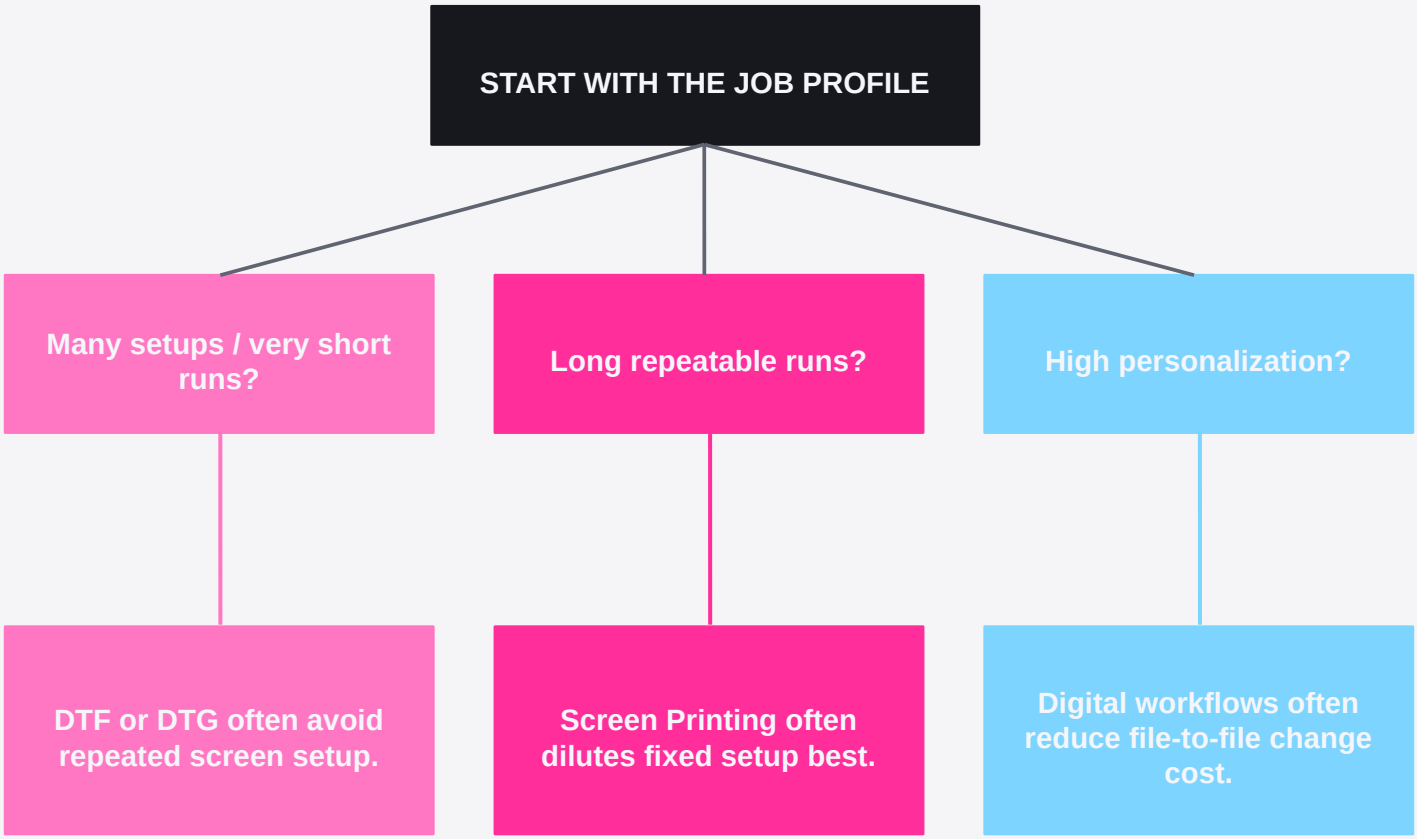
Maintenance waste

Cleaning cycles, nozzle checks, ink expiration and downtime.

INTERPRETATION

A decision map - not a universal winner

Method choice changes with effective run length, color count, print area, personalization, labor and process reliability.



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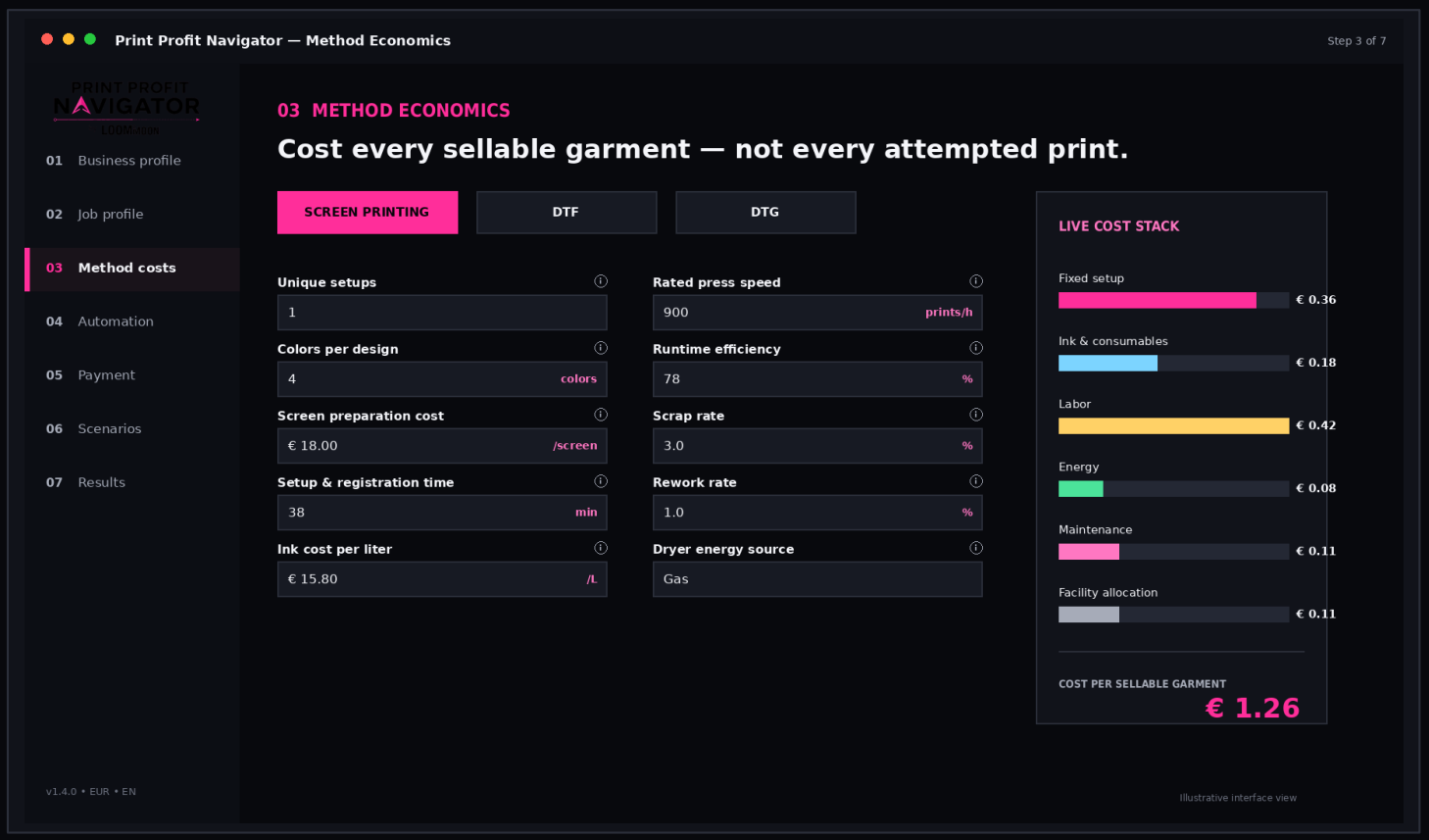
Then test the crossover

The map suggests what to investigate. The calculator decides only after your fixed costs, variable costs, scrap and quantity range are evaluated.

INTERFACE WALKTHROUGH

Method inputs and live cost stack

The cost screen should expose the drivers behind the result rather than hiding them inside a single per-print number.



Illustrative interface view showing Screen Printing inputs and a sellable-cost stack.

- **Cost stack**

  Fixed setup, consumables, labor, energy, maintenance and facility allocation remain visible.

- **Sourceable inputs**

  Rates and consumption should be connected to company, supplier or measured data.

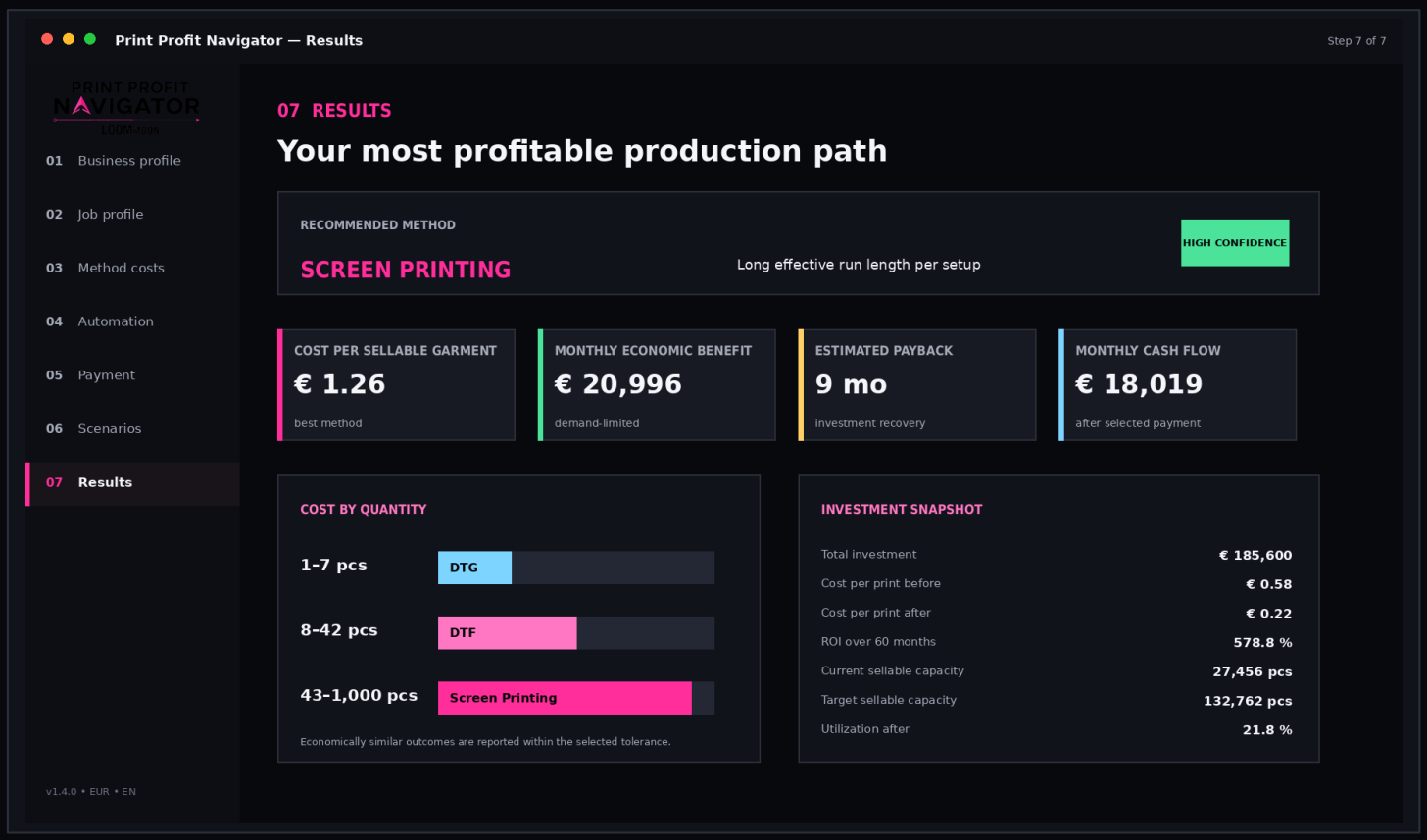
- **Method-specific logic**

  Screen, DTF and DTG have different fixed and variable cost structures.

INTERFACE WALKTHROUGH

Read the break-even as a range

The live demonstration evaluates method cost over the selected quantity range rather than publishing a universal crossover.



Live demonstration values shown on 6 Aug 2026: DTG for 1-7 pieces, DTF for 8-42, Screen Printing for 43-1,000.

- **The crossover belongs to this scenario**

  Change setup count, labor, print area, waste or energy and the range can move.

- **Use equivalence tolerance**

  When methods are close, report them as economically similar instead of declaring a false winner.

04

SECTION

AUTOMATION ROI & CAPACITY

Convert scheduled time into realistic sellable capacity, then convert only verified, sellable economic effects into benefit.

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CAPACITY CHAIN

Capacity before and after automation

Rated speed enters the model, but it does not leave the model unchanged.

01	**Scheduled hours**	Workdays x shifts x hours
02	**Less blocked time**	Setup + registration + maintenance + downtime
03	**Net runtime hours**	Time available for productive cycling
04	**Produced output**	Net runtime x rated speed x runtime efficiency
05	**Sellable output**	Produced output x (1 - scrap rate)

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Why this matters

A machine rated at 1,200 prints per hour can still produce less sellable work than a slower machine if setup, loading, curing, micro-stops or rejects become the real bottleneck.

Current vs target production inputs

Use the same definition and time boundary on both sides. Otherwise the “improvement” is an accounting artifact.

CURRENT BASELINE

Measured output

Use sellable units per hour or rebuild it from cycle, efficiency and scrap.

Actual setup burden

Jobs per month, setup and registration minutes, crew and test garments.

Current fixed costs

Labor, service, maintenance, overtime, outsourcing and facility costs.

TARGET CONFIGURATION

Source-labelled capability

Rated speed, proposed setup, staffing, service and utilities with source status.

Training ramp

Use a conservative efficiency profile until the workflow is proven.

Incremental cost

Installation, software, facility changes, service and payment structure.

COMPLETE PROCESS BOUNDARY

Dryer, power, gas and auxiliary equipment

The press is only one energy consumer and may not be the line bottleneck.

Press / printer

Rated kW, active load, standby time

Flash or pretreat dryer

kW or gas rate, dwell time, warm-up

Conveyor dryer / curing oven

Electric or gas consumption, belt speed, load factor

Heat press

Power, seconds per transfer, presses and operator count

Pretreatment equipment

Sprayer, booth, dryer, extraction and cleaning

Compressed air

Compressor kW, duty cycle and leak allowance

HVAC / ventilation

Make-up air, cooling or heating driven by production

Ancillary systems

RIP workstation, pumps, circulation, filtration and lighting

NAVA **Use the right energy price**

Enter your marginal electricity or gas cost, including relevant taxes and demand components. A generic national average can distort high-energy curing.

NO DOUBLE COUNTING

The monthly benefit ledger

Each effect must have a status so that capacity, labor and contribution are not counted twice.

Benefit line	Example	Status rule
Operating savings	Lower labor / consumables on comparable volume	Add when directly incremental.
Additional sold contribution	Extra sellable units x contribution margin	Cap at expected demand.
Avoided outsourcing	Verified work brought in-house	Add only if outsourcing actually falls.
Overtime / temporary labor	Documented reduction	Do not also count the same hours as output gain.
Registration capacity	Recovered productive time	Informational if already inside target capacity.
Incremental fixed costs	Service, facility, software, payment	Subtract every month.

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Three ledger labels

Included in total benefit, additional to total benefit, or informational only. Those labels are what keep a strong story from becoming a double-counted story.

COMMERCIAL REALITY

Demand-limited ROI

Capacity is an option. Profit appears only when additional sellable units are actually sold.

POTENTIAL ADDITIONAL CAPACITY

Target sellable capacity - current sellable capacity

This is operational headroom, not guaranteed sales.

ADDITIONAL SOLD UNITS

Minimum of potential capacity and expected incremental demand

Demand must be realistic and time-bound.

ADDITIONAL CONTRIBUTION

Additional sold units x contribution margin per unit

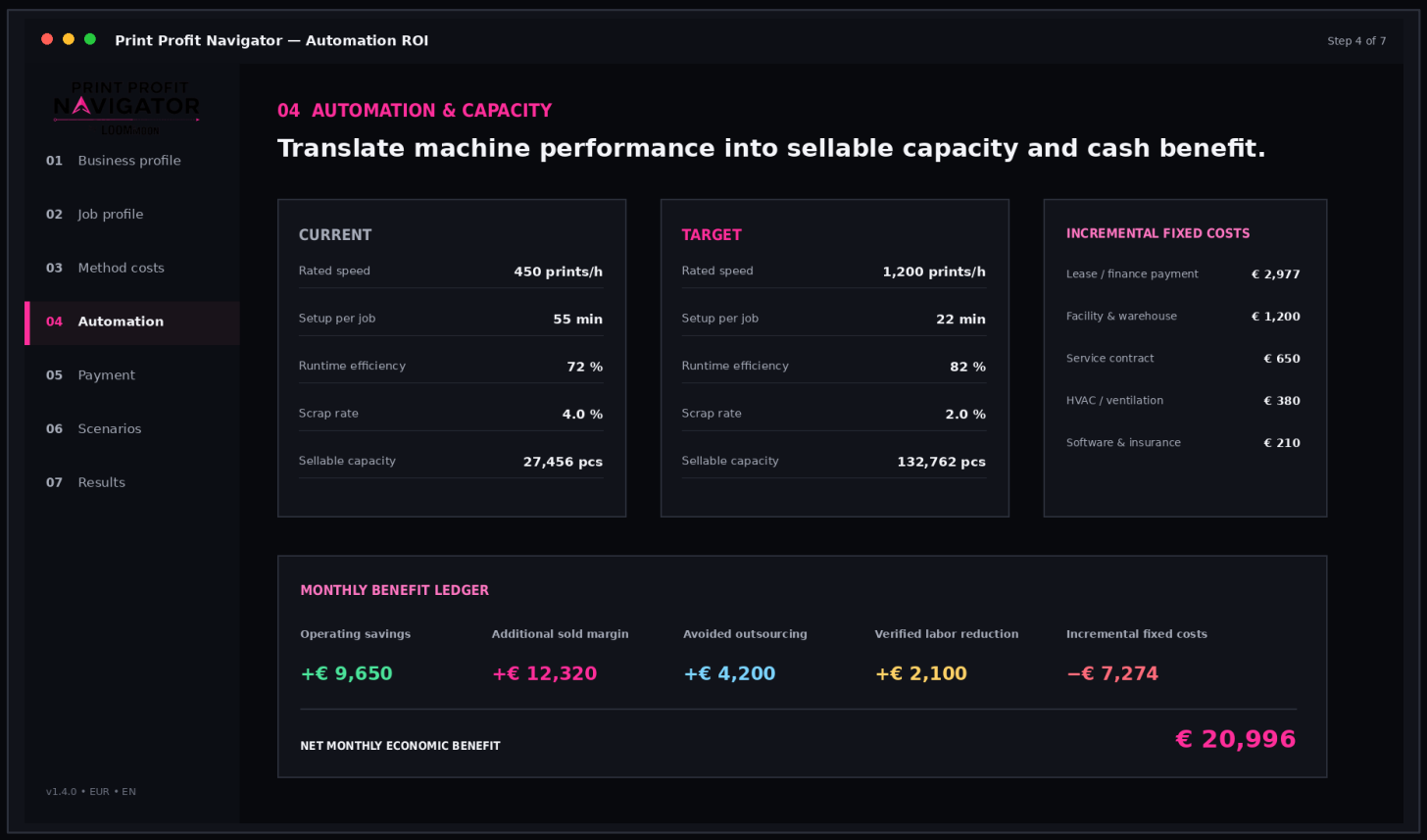
Use contribution, not revenue.

- **Flag unused capacity**
  Low target utilization can still be strategically useful, but it should not be monetized automatically.
- **Separate secured and speculative demand**
  Existing backlog, outsourcing replacement and new sales pipeline have different evidence quality.

INTERFACE WALKTHROUGH

Automation and the benefit ledger

The interface should place current output, target output, incremental fixed costs and the economic ledger on one screen.



Illustrative screen using the live demo headline result and expanded facility-cost categories.

- **Compare like with like**

  Current and target must share the same period, product mix and sellable-output definition.

- **Expose incremental costs**

  Facility, service, HVAC, software and insurance should not disappear below the machine payment.

DEMO INTERPRETATION

How to read the automation result

The live demonstration presents a strong result, but the interpretation depends on demand and assumptions.

INVESTMENT

EUR 185,600

All-in demo investment

MONTHLY BENEFIT

EUR 20,996

Demand-limited

PAYBACK

9 months

Estimated

Metric	Demo value	Interpretation
Cost per print before	EUR 0.58	Baseline conversion cost under demo assumptions.
Cost per print after	EUR 0.22	Target conversion cost after automation.
Target capacity	132,762 pcs	Operational ceiling after efficiency and scrap.
Utilization after	21.8%	Most target capacity remains unused in the demand case.
ROI over 60 months	578.8%	Highly sensitive to monthly benefit and sustained demand.

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Read the warning, not just the number

The demo explicitly says the ROI is demand-limited. That is a strength: unsold capacity is not treated as profit.

05

SECTION

REGISTRATION & MACHINE INDEX

Before buying more rated speed, measure the minutes lost before the first good print and the seconds lost in every production cycle.

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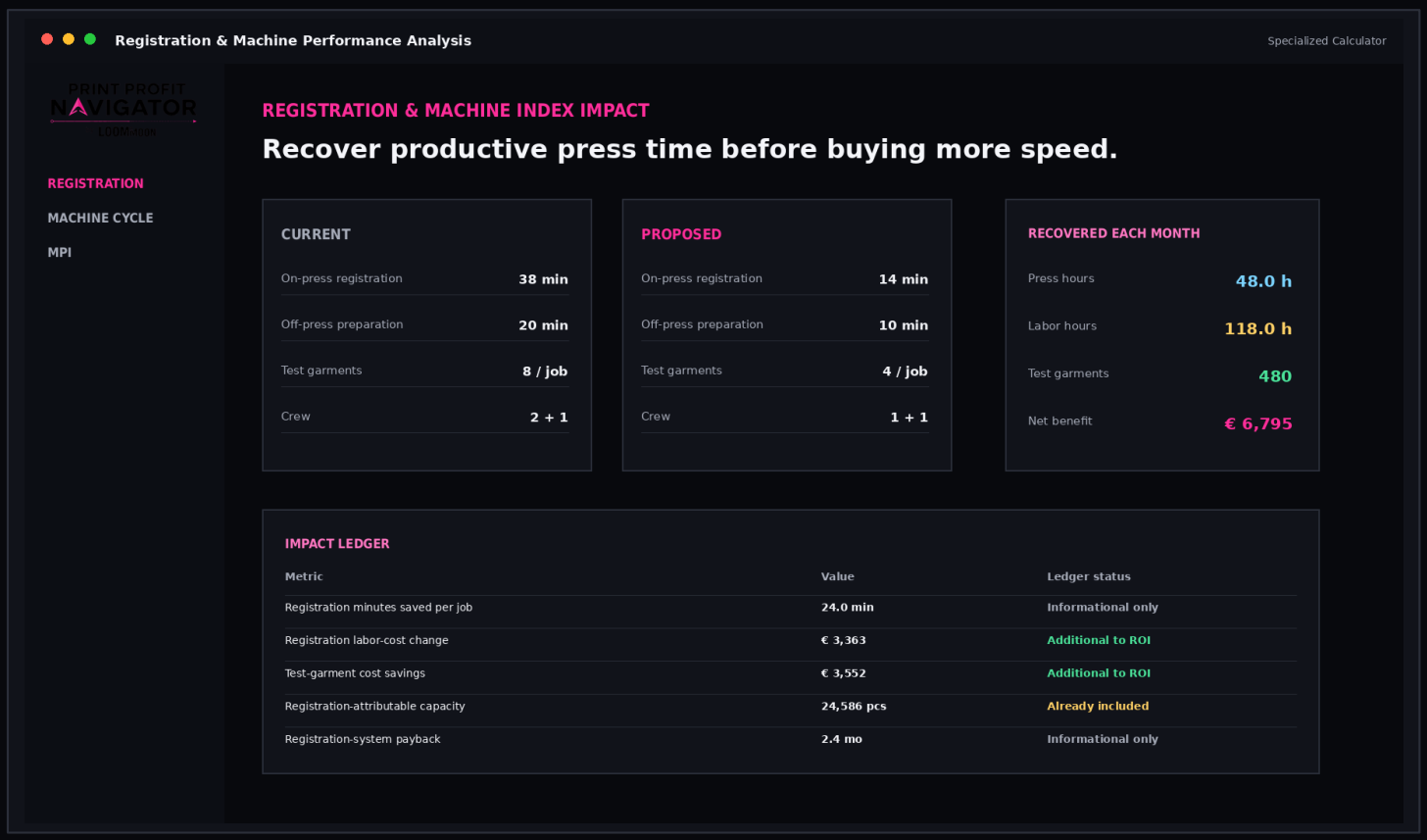
INTERFACE WALKTHROUGH

Registration impact in one view

Compare current and proposed on-press time, off-press preparation, crew, test garments and the benefit ledger.



Illustrative view using the live demonstration metrics.

Press-blocking vs off-press time

On-press minutes directly consume productive press availability; off-press preparation may consume labor without blocking the press.

Ledger status

Recovered capacity may already be included in the main automation model and should not be added again.

CONCEPTUAL FORMULAS

Registration calculations

Registration improvement creates several effects. Keep time, labor, scrap and capacity separate before deciding which are additive.

MINUTES SAVED PER JOB

Current on-press minutes - proposed on-press minutes

PRESS HOURS RECOVERED

Minutes saved x jobs per month / 60

LABOR-HOURS CHANGE

Current crew-hours - proposed crew-hours

Include on-press and off-press crew separately.

TEST-GARMENT SAVINGS

Garments saved per job x jobs per month x blank cost

REGISTRATION-ATTRIBUTABLE CAPACITY

Recovered press hours x realistic sellable rate

Usually informational when target capacity already uses the proposed registration time.

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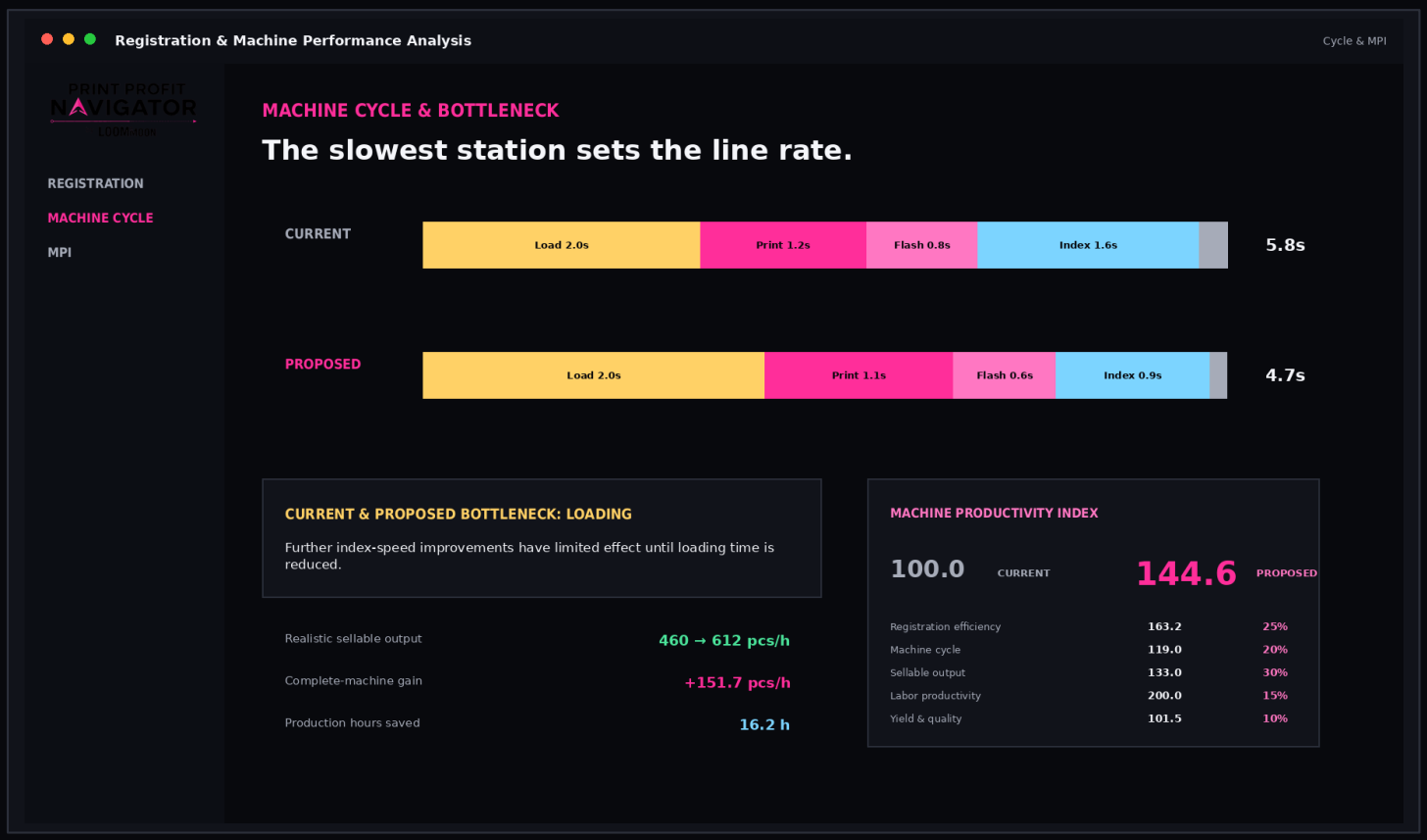
Live demo reference

The demonstration shows 24 minutes saved per job, 48 press hours recovered per month and a net monthly registration benefit of EUR 6,795.

INTERFACE WALKTHROUGH

Machine cycle and MPI

Index time is only one segment. Loading, print, flash, clearance, unloading and stabilization can set the line rate.



Illustrative view using the demonstration cycle values and Machine Productivity Index.

- **Current cycle**

  5.8 seconds; realistic sellable output about 460 pieces per hour.

- **Proposed cycle**

  4.7 seconds; realistic sellable output about 612 pieces per hour.

- **Bottleneck**

  Loading remains the bottleneck in both configurations.

CYCLE COMPOSITION

Bottleneck logic

Improving a non-bottleneck station may create waiting instead of output.

CURRENT CYCLE - 5.8 s

If index time falls but loading stays at 2.0 seconds, loading becomes the limiting station.

- **Which station has the longest effective dwell?**
- **Can operations overlap, or are they fully sequential?**
- **Does a second loader / unloader change the constraint?**
- **Does the dryer or flash create downstream waiting?**
- **Is the measured cycle stable over a full production hour?**

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Fast index, slow line

The demonstration saves 0.9 seconds of index time, yet the complete-machine gain is smaller than an index-only calculation would suggest because loading remains limiting.

COMPOSITE INDEX

Machine Productivity Index (MPI)

MPI is a weighted operational planning indicator relative to the current baseline. It is not ROI and not a manufacturer quality score.

CURRENT MPI

100.0

Baseline

PROPOSED MPI

144.6

Demo configuration

RELATIVE CHANGE

+44.6%

Weighted operational score

Subindex	Demo value	Weight
Registration Efficiency Index	163.2	25%
Machine Cycle Index	119.0	20%
Sellable Output Index	133.0	30%
Labor Productivity Index	200.0	15%
Yield & Quality Index	101.5	10%

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Do not over-translate the index

An MPI of 145 does not mean every process is 45% faster. It means the selected weighted indicators produce a combined score 45% above baseline.

06

SECTION

DTG VS DTF & SUSTAINABILITY

Compare one job with your print area, ink, pretreatment, film, powder, labor, curing, rejects and optional environmental factors.

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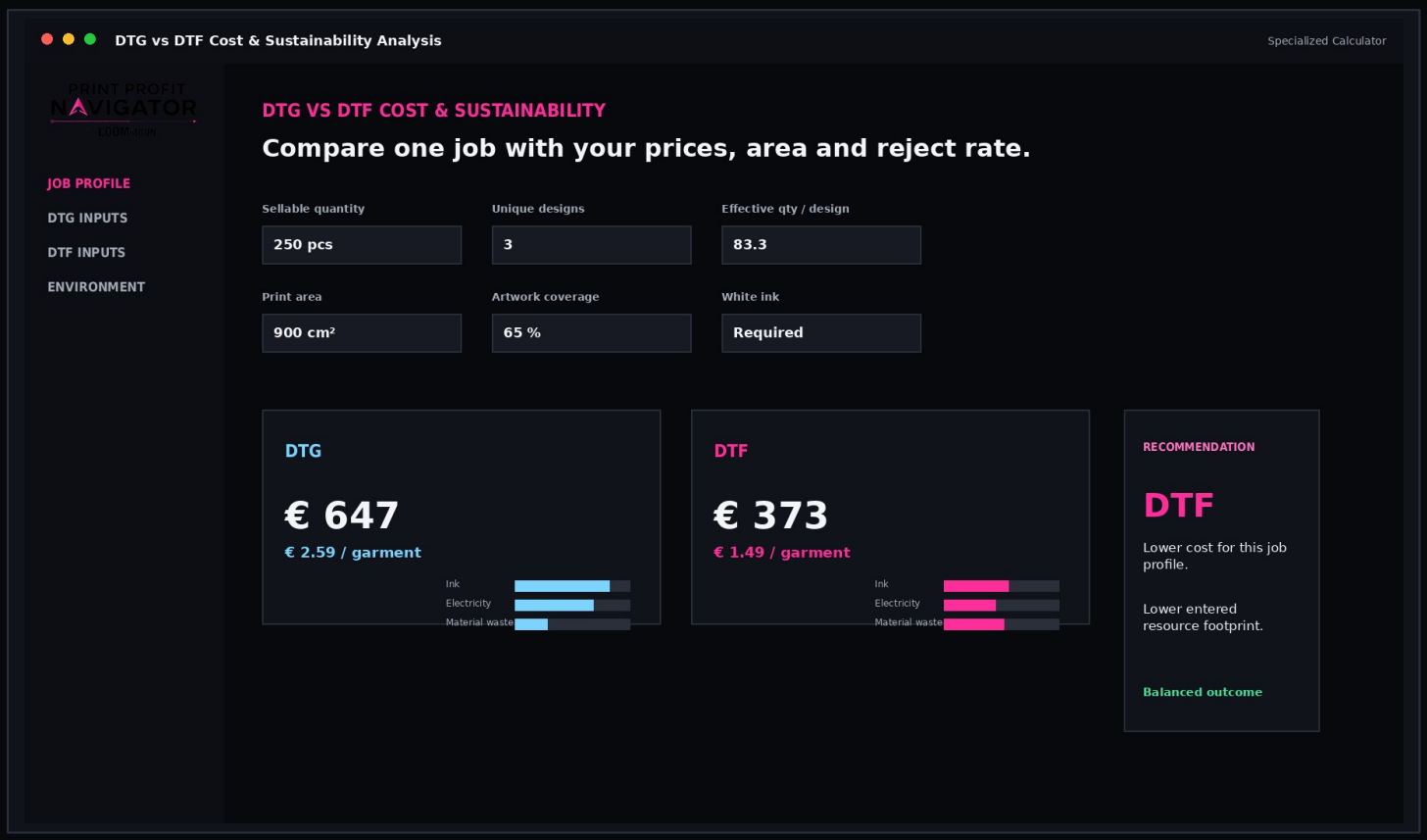
INTERFACE WALKTHROUGH

Compare the job, not the technology label

The specialized calculator compares direct production cost and planning indicators for resource use.



Illustrative view using the live demonstration job: 250 sellable garments, 3 designs and an effective 83.3 units per design.

- **Demo result**

  DTG: EUR 647 total / EUR 2.59 per garment. DTF: EUR 373 total / EUR 1.49 per garment.

- **Balanced recommendation**

  Cost and entered resource indicators point to DTF in the demonstration.

FIELD GUIDE

Job profile inputs

The same printer can produce very different economics when area, garment color, design count or personalization changes.

Input	What to enter	Why it matters
Sellable quantity	Units expected after rejects	Denominator for job and unit cost.
Unique designs	Files that require separate preparation	Defines effective quantity per design.
Print area	Actual image area in cm2	Scales ink, pretreatment and time.
Artwork coverage	Percent of the area printed	Refines ink and material use.
Garment material / color	Fabric and light / dark profile	Changes pretreatment and white ink.
White ink required	Yes / no or entered volume	Often a major digital cost driver.
Personalization	Names, numbers or unique files	Adds handling and RIP workflow.

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Measure a representative image

A single “average design” can hide a product mix. Capture small chest prints, full fronts and high-white-ink graphics separately when they drive different decisions.

Cost and resource input checklist

Use actual consumable prices and process measurements. Published list prices are only a starting point.

DTG INPUTS

Ink & pretreatment

CMYK ml, white ml, price per liter, pretreatment quantity and price.

Time & labor

Pretreat handling, drying, print time, unload and cure.

Maintenance & loss

Cleaning ink, nozzle checks, rejects, reprints and downtime.

DTF INPUTS

Ink, film & powder

CMYK / white ink, film meters or sheets, nesting, powder consumption and waste.

Cure & press

Oven pass, warm-up, heat-press seconds, operator handling and throughput.

Maintenance & rejects

Cleaning, white-ink circulation, failed film and transfer defects.

RESOURCE EQUATIONS

Energy, water, waste and optional CO2e

These are planning indicators based on entered process data, not a certified life-cycle assessment.

ELECTRICITY PER GARMENT

Sum of equipment kW x active hours / sellable quantity

Include printer, pretreat dryer, curing oven and heat press as applicable.

CO2E FROM ELECTRICITY

Electricity kWh x entered emission factor

Use the factor for the relevant electricity contract or planning case.

WATER INDICATOR

Pretreatment dilution + cleaning water / sellable quantity

Omit the comparison when no water values are entered.

MATERIAL WASTE

Rejected ink / film / powder / pretreatment / garment mass

Keep categories visible; one total can hide the source of waste.

INTERPRETATION

Sensitivity analysis and recommendation

A recommendation should explain what would change it.

Quantity / effective quantity

Does setup and handling dilute over enough units?

Print area and coverage

How quickly do ink, pretreatment and film usage scale?

White ink

How much underbase is required on dark garments?

Labor handling

How many touches, seconds and operators are required?

Reject rate

Which process loses more garments or transfers?

Energy price

Does curing or pressing dominate energy cost?

NAVA

Three recommendation layers

Economic recommendation, resource / environmental recommendation, and balanced recommendation. They can agree, conflict or be incomplete when inputs are missing.

07

SECTION

PAYMENT, PRICING & REPORTS

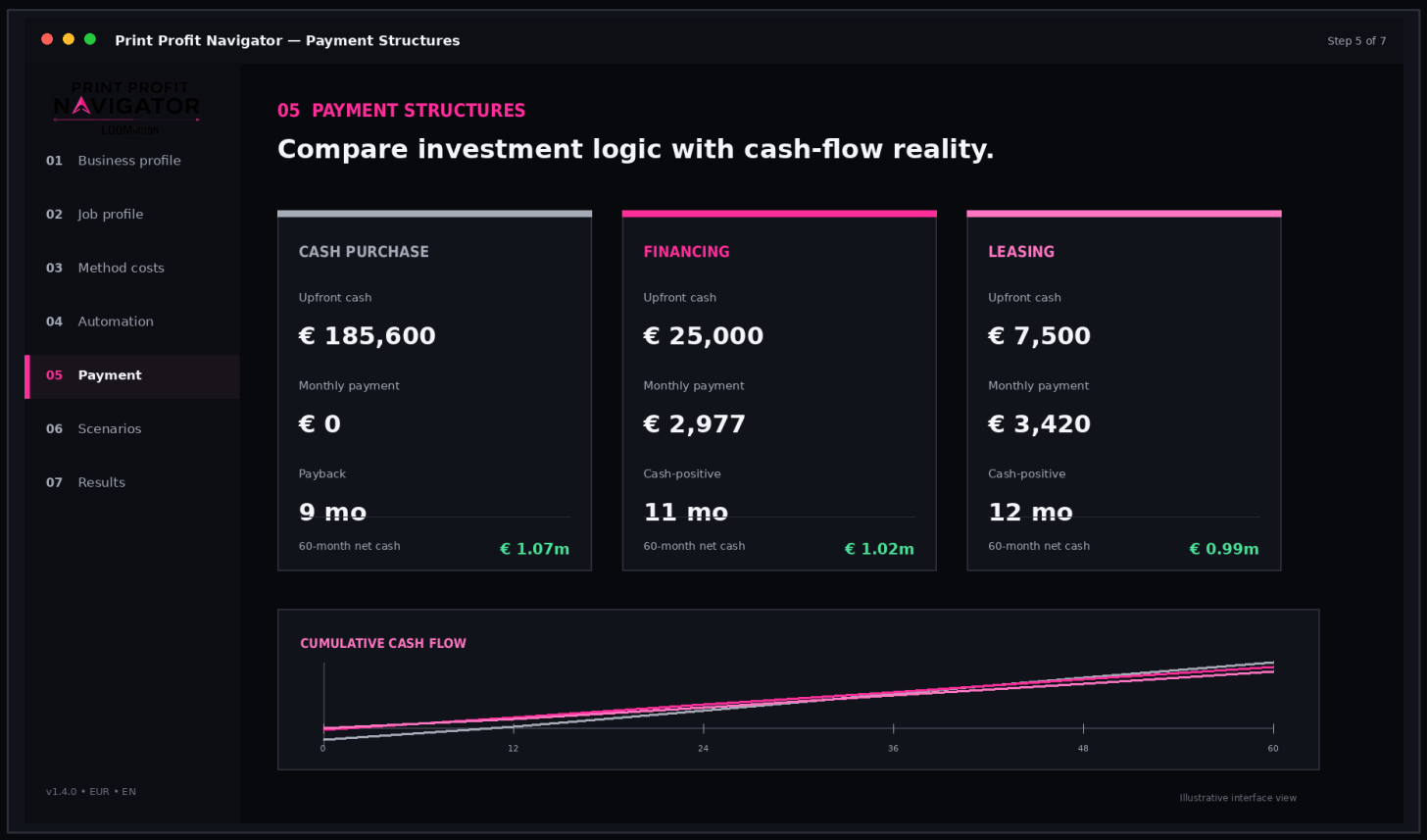
Separate the investment decision from the payment decision, then preserve the assumptions in a professional report.

PRINT PROFIT NAVIGATOR BIBLE

INTERFACE WALKTHROUGH

Cash, financing and leasing

The same operating benefit can produce very different upfront cash, monthly payment and cumulative cash-flow paths.



Illustrative interface view showing three payment structures and a 60-month cumulative cash-flow comparison.

- **Use actual quotations**

  The tool should not invent a lease offer. Enter the quotation values you receive.

- **Compare total and timing**

  Upfront cash, monthly payment, total payments and cash-positive month all matter.

CONCEPTUAL EQUATIONS

Payment formulas and interpretation

Choose a structure with both total economics and liquidity in view.

CASH PURCHASE

Upfront cash = equipment + installation + training + taxes / fees as applicable

STANDARD FINANCING PAYMENT

Principal x monthly rate x (1 + rate)^n / ((1 + rate)^n - 1)

Adjust for deposit, balloon and quoted fees.

LEASE PAYMENT

Use the quoted upfront amount, term, monthly payment, fees and residual / purchase option

Do not reverse-engineer an offer that was not made.

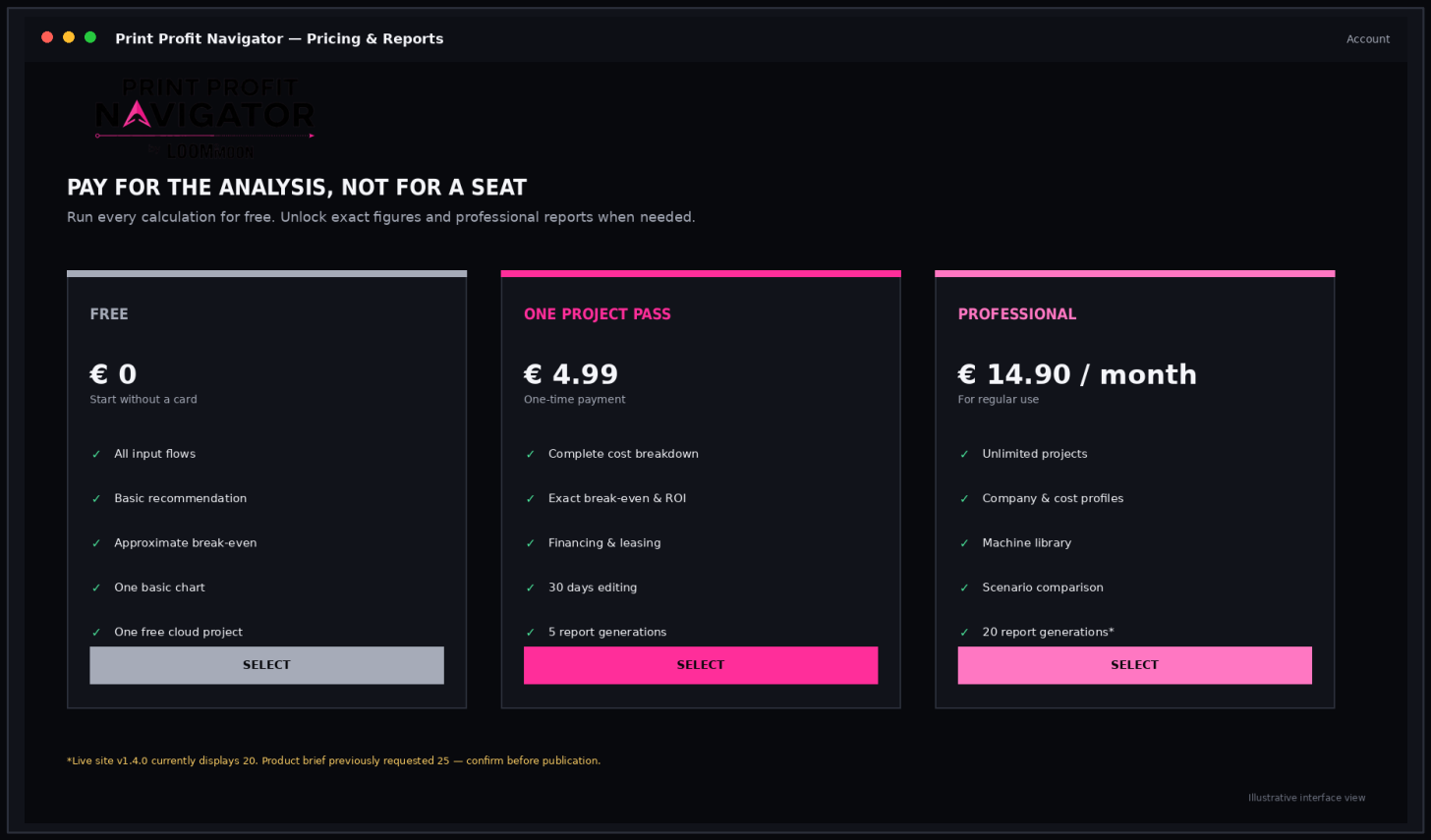
MONTHLY NET CASH FLOW

Monthly economic benefit - selected monthly payment - incremental recurring costs

INTERFACE WALKTHROUGH

Pricing and report allowances

Run calculations free; pay to unlock exact figures, financing comparison and professional reports.



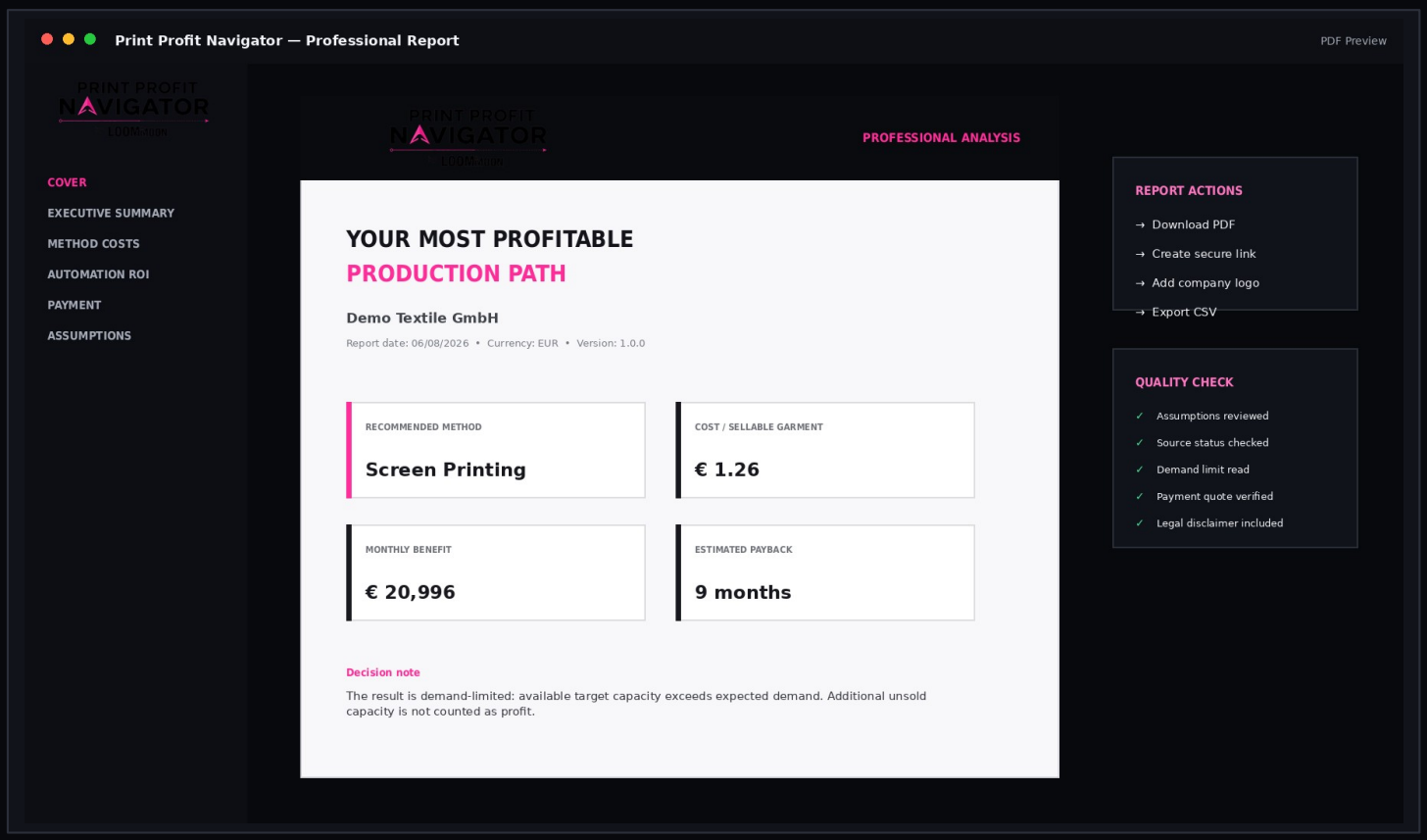
Illustrative pricing screen aligned to the live site on 6 Aug 2026.

- **Free**
  All input flows, basic recommendation, simplified comparison, approximate break-even and one free cloud project.
- **One Project Pass**
  EUR 4.99, one project, 30 days editing and five report generations.
- **Professional**
  EUR 14.90/month and 20 report generations on the live page; the earlier product brief requested 25 - resolve before release.

INTERFACE WALKTHROUGH

Generate, download and share the report

The professional report turns the model into a reviewable decision record.



Illustrative report preview with navigation, executive summary, actions and a quality check.

- **Download security**
  Delivery can use secured, time-limited links; save the file locally.
- **Sharing**
  Use read-only links deliberately and revoke them when the review is complete.
- **Allowance control**
  Report generation and download limits should be expressed consistently across pricing, checkout, billing and legal copy.

REPORT REVIEW ORDER

How to read the professional report

Read the assumptions and warnings before the headline recommendation.

01	**Executive summary**	Method, unit cost, benefit, payback and cash flow.
02	**Assumptions**	Company, job, machine, cost and payment inputs plus source status.
03	**Method comparison**	Cost stack, break-even ranges and economically similar zones.
04	**Automation ledger**	Current / target capacity, demand cap and benefit status.
05	**Payment structure**	Upfront cash, monthly payment, total payments and cumulative cash flow.
06	**Sensitivity / scenarios**	What changes under conservative and upside assumptions.
07	**Limitations**	Non-binding estimate, not financial, tax, legal or credit advice.

NAVA

Bank-ready is not bank-approved

A professional report can support a financing conversation. It does not replace lender underwriting or guarantee approval.

08

SECTION

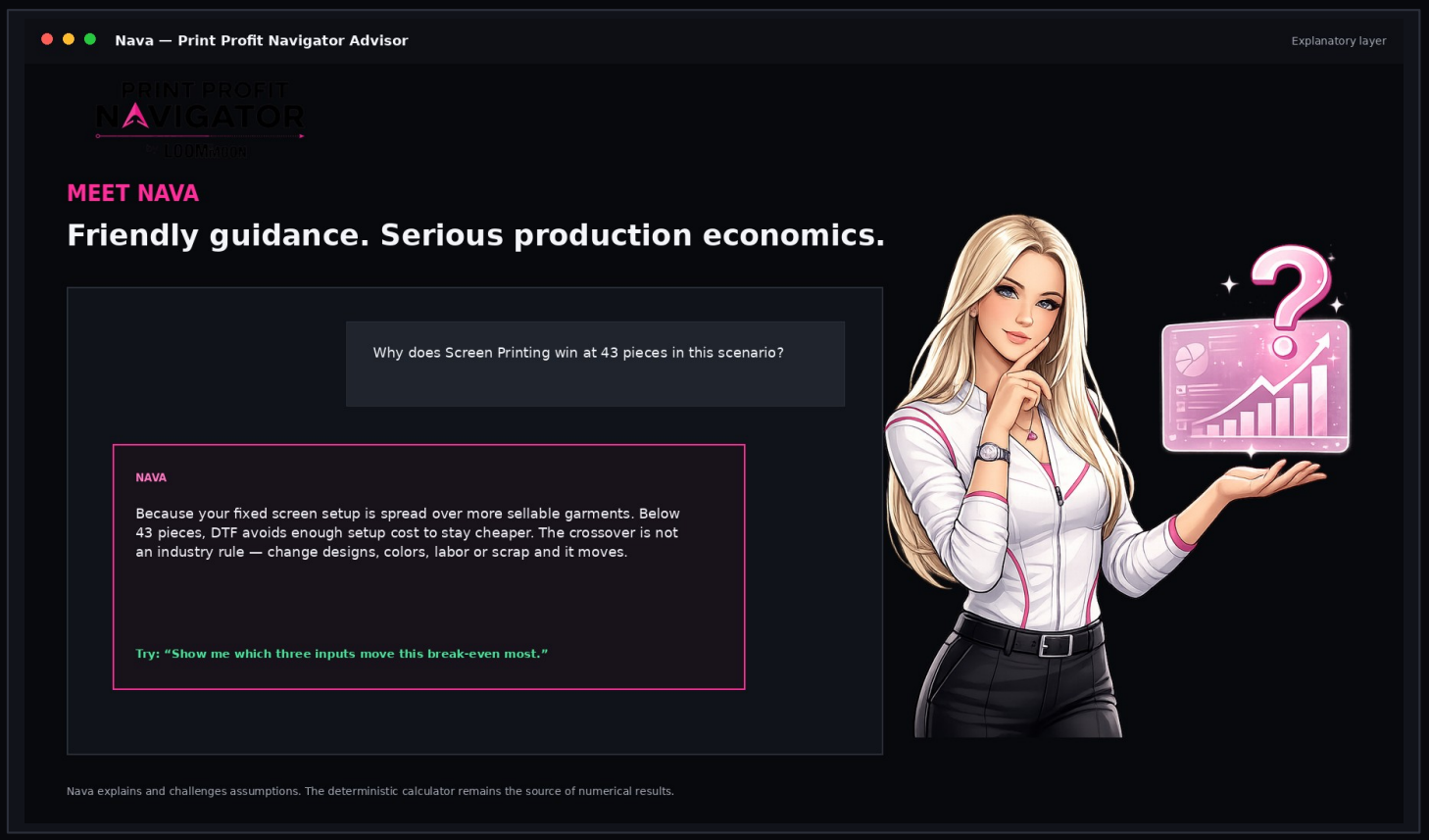
NAVA ADVISOR

Nava makes the model understandable, challenges assumptions and adds a little humor - while the deterministic engine remains the numerical source of truth.

INTERFACE WALKTHROUGH

Meet Nava

A friendly explanatory layer that helps users understand drivers, warnings and next best questions.



Illustrative advisor screen using the approved Nava visual style.

- **Explain**

  Translate a result into plain language and point to the inputs that caused it.

- **Challenge**

  Ask whether demand, labor, setup, scrap or facility cost is measured or assumed.

- **Guide**

  Suggest what to measure next and which scenario to run.

ADVISOR ARCHITECTURE

Nava role and guardrails

Nava can be clever and human without becoming the calculation engine.

NAVA SHOULD

- **Explain formulas and result drivers in plain language.**
- **Summarize assumptions and identify missing data.**
- **Suggest sensitivity tests and next measurements.**
- **Compare scenarios already calculated by the engine.**
- **Use light humor that never trivializes financial risk.**

NAVA SHOULD NOT

- **Invent machine specifications, costs or lease offers.**
- **Change a numerical result outside the deterministic engine.**
- **Present an estimate as a guarantee or quotation.**
- **Give financial, tax, legal or credit-approval advice.**
- **Hide a source gap behind confident language.**

NAVA

The hand-off sentence

“The calculator produced this value from the assumptions shown. I can explain it and help you test it, but I will not replace the calculation.”

PROMPT LIBRARY

Best questions to ask Nava

Good prompts focus on drivers, evidence and decision risk.

BREAK-EVEN

“Which three inputs move the Screen / DTF / DTG crossover most?”

DATA QUALITY

“Which inputs are demo values, estimates, quotes or measured data?”

AUTOMATION

“Why is the ROI demand-limited, and what demand is counted?”

DOUBLE COUNTING

“Which benefits are already included in target capacity?”

FACILITY

“What incremental facility or utility costs are still missing?”

BOTTLENECK

“Why does faster indexing not create the full theoretical output gain?”

PAYMENT

“Which option protects liquidity, and what does it cost over the horizon?”

SCENARIO

“Build a conservative case around the weakest three assumptions.”

NAVA **One prompt to remember**

“What would have to be true for this recommendation to be wrong?”

CHARACTER GUIDE

Nava visual and tone system

Use the same character consistently so guidance feels recognizable, serious and friendly.

WELCOME / GROWTH

Open the journey or celebrate a verified improvement.

QUESTION / CHALLENGE

Flag missing data or invite a sensitivity test.

CONFIRM / NEXT STEP

Confirm a completed input step or recommend action.

COMPARE / EXPLAIN

Interpret charts, scenarios and trade-offs.

Tone: warm, direct, concise, lightly humorous. Never cute at the expense of credibility.

09

SECTION

WORKED PLAYBOOKS

Use these examples to teach the logic. The values are illustrative training scenarios unless explicitly identified as live demonstration data.

PRINT PROFIT NAVIGATOR BIBLE

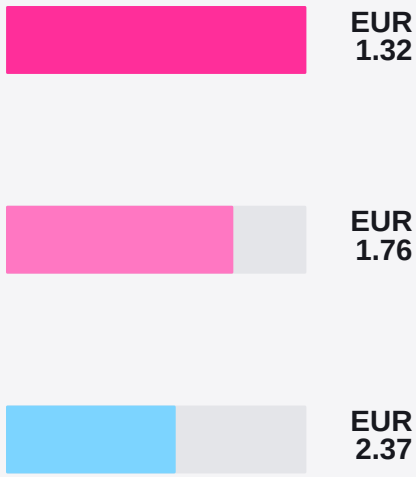
ILLUSTRATIVE TRAINING SCENARIO

Case A - 500 shirts, one design

A long effective run can dilute Screen Printing setup cost.

Input	Value
Sellable quantity	500
Unique designs	1
Colorways	1
Locations	1
Effective run	500 / setup
Artwork	4 colors

ILLUSTRATIVE CONVERSION COST / SELLABLE GARMENT



What could change it

More designs, more locations, slower setup, low quantity, high scrap or high screen-room cost.

Why Screen wins

One setup is spread across 500 sellable garments. Fixed screen and registration cost becomes small per unit.

NAVA

Training note

These values demonstrate the setup principle. They are not a quote and are not the live application demo.

ILLUSTRATIVE TRAINING SCENARIO

Case B - 300 pieces, 30 designs

The purchase order is large; the effective runs are tiny.

UNIQUE SETUPS

30 designs x 2 colorways x 1 location = 60 setups

EFFECTIVE RUN LENGTH

300 sellable pieces / 60 setups = 5 pieces per setup

Method	Illustrative cost / sellable garment	Reason
Screen Printing	EUR 8.40	Repeated setup and screen cost dominates.
DTF	EUR 2.10	Digital file changes avoid most physical setup.
DTG	EUR 2.35	Competitive, but print / pretreat time remains higher.

NAVA **The lesson**

Order size is not the same as run length. Sixty setups turn a 300-piece order into sixty five-piece production events.

LIVE DEMO INTERPRETATION

Case C - automation investment

Use the live demonstration to practice reading a strong but demand-limited result.

RECOMMENDED METHOD

Screen

High confidence

MONTHLY BENEFIT

EUR 20,996

Demand-limited

PAYBACK

9 months

Estimated

Question	What the demo says	What to verify
Is capacity the constraint?	Target capacity rises to 132,762 pcs.	Demand, dryer, staffing and downstream flow.
Is all capacity monetized?	No; utilization after is 21.8%.	Only expected sold output enters benefit.
Is cost reduction plausible?	EUR 0.58 to EUR 0.22 per print.	Labor, setup, efficiency, scrap and service inputs.
Is payment affordable?	Monthly cash flow shown as EUR 18,019.	Actual quote, taxes, fees and cash timing.

NAVA

Decision question

Would the investment still be acceptable in the conservative scenario if demand, efficiency and setup improvement arrive more slowly?

LIVE SPECIALIZED DEMO

Case D - DTG vs DTF, 250 garments

The live demonstration favors DTF for both cost and entered resource indicators.

QUANTITY	EFFECTIVE QUANTITY	RECOMMENDATION
250	83.3	DTF
3 unique designs	Per design	Balanced outcome

Metric	DTG	DTF
Total production cost	EUR 647	EUR 373
Cost / sellable garment	EUR 2.59	EUR 1.49
Economic recommendation	Higher cost	Lower cost
Resource recommendation	Higher entered footprint	Lower entered footprint
Water comparison	Omitted	No values entered

NAVA

What to test next

Change print area, white ink, film nesting, press seconds and reject rate. The recommendation belongs to the entered job profile.

10

SECTION

TROUBLESHOOTING & GOVERNANCE

Use these pages before publishing a report, shipping a release or relying on the result in an investment decision.

PRINT PROFIT NAVIGATOR BIBLE

USER SUPPORT

Troubleshooting matrix

Diagnose the symptom before changing the model.

Symptom	Likely cause	Action
Result looks implausibly cheap	Scrap, labor, setup or auxiliary equipment missing	Review the full cost stack and sellable denominator.
Rated speed equals output	Runtime efficiency or downtime not applied	Rebuild the capacity chain.
ROI is extremely high	Demand, contribution or benefits double counted	Review the benefit ledger and demand cap.
Screen wins every job	Unique setups or setup cost too low	Check designs, colorways, locations and registration.
Digital cost ignores dark garments	White ink or pretreatment missing	Set garment color and white-ink requirement.
Report / download unavailable	Not signed in, allowance or payment status	Open account / billing / report area and verify order.
Inputs disappeared	Browser storage cleared or device changed	Sign in and save the project to cloud.

VALIDATION

Pre-decision quality checklist

Do not approve the recommendation until each line is answered.

- ☐ 01 All material, labor, energy, maintenance and facility costs have a defined boundary.
- ☐ 02 Unique setups and effective run length reflect real design / colorway / location complexity.
- ☐ 03 Current output is measured or reconstructed from realistic cycle and efficiency data.
- ☐ 04 Target capability has source status and a realistic ramp-up assumption.
- ☐ 05 Scrap, rework, test garments and maintenance waste are included.
- ☐ 06 Additional sold units are capped by evidence-based demand.
- ☐ 07 Benefit lines are labelled included, additional or informational.
- ☐ 08 Cash, financing and leasing use current quotations and the same analysis horizon.
- ☐ 09 Conservative, base and upside scenarios have been reviewed.
- ☐ 10 The report disclaimer and assumptions are visible to decision makers.

NAVA

Approval sentence

“We understand which inputs are measured, quoted and assumed; we have tested the downside; and we know which conditions must be true for the result to hold.”

GOVERNANCE

Privacy, security and legal boundaries

The product handles account, project, purchase and report data. Keep user expectations precise.

Local storage

Consent, preferences and unsaved calculator state can be stored in the browser.

Account data

Email, authentication and optional profile details support sign-in and cloud projects.

Payments

Stripe processes payment details; order and payment status are stored for contract handling.

Reports

Purchases, report events and download counts can be logged to enforce allowances.

Security

Transport encryption, row-level database access rules and signed expiring links are stated controls.

Limitations

Results are estimates and not financial, tax, legal advice, a quote, guarantee or credit approval.

NAVA

Keep legal copy synchronized

Pricing, checkout, terms, privacy, report allowances and download behavior must describe the same product.

REFERENCE

Glossary

A compact reference for the terms used throughout the product and report.

Break-even point	Quantity where two method cost functions are equal or cross.	**Contribution margin**	Sales price minus variable costs used to value additional sold units.
Cost per sellable garment	Total relevant cost divided by units that pass quality and can be sold.	**Demand-limited**	Benefit capped because available capacity exceeds expected sales.
Effective run length	Sellable quantity divided by unique setups.	**Equivalence tolerance**	Allowed difference within which methods are reported as economically similar.
Loaded labor cost	Hourly wage plus employer burden and recurring labor cost.	**Micro-stop**	Short interruption that reduces runtime efficiency without being a major breakdown.
MPI	Weighted relative operational score, baseline = 100.	**Net runtime**	Scheduled time after setup, maintenance and downtime.
Rework	Additional processing required to recover an attempted unit.	**Sellable capacity**	Produced output after realistic efficiency and scrap adjustment.

REFERENCE

Formula reference cheat sheet

Conceptual expressions for review and training. The implemented engine remains the technical source of truth.

Metric	Conceptual expression
Unique setups	Designs x colorways x print locations (or manual override)
Effective run	Sellable quantity / unique setups
Gross attempts	Sellable quantity / (1 - scrap rate)
Cost / sellable garment	Total relevant cost / sellable quantity
Net runtime	Scheduled hours - setup - downtime - maintenance
Produced output	Net runtime x rated speed x runtime efficiency
Sellable output	Produced output x (1 - scrap rate)
Additional sold units	Min(capacity gain, expected incremental demand)
Monthly benefit	Savings + sold contribution + avoided costs - incremental fixed costs
Payback month	First month cumulative cash flow becomes positive
Energy per garment	Sum(kW x active hours) / sellable quantity
Electric CO2e	Electricity kWh x emission factor

PREPARATION

Data collection worksheet

Collect evidence before the calculation workshop. Mark every item as measured, quote, estimate, demo or unknown.

Business

Monthly volume; work calendar; loaded labor; garment cost; sales price; outsourcing.

Job mix

Quantities; designs; colorways; locations; print area; personalization; dark garment share.

Screen

Screen cost; setup / registration; crew; test garments; speed; efficiency; scrap; ink; dryer.

DTF

Ink; film; powder; nesting; cure; press time; labor; rejects; maintenance.

DTG

Ink; pretreatment; print time; dry / cure; labor; maintenance; rejects.

Automation

Current / target capacity; installation; training; service; facility changes; staffing.

Utilities

Electricity; demand charges; gas; water; compressed air; HVAC / ventilation.

Payment

Cash price; deposit; rate; term; balloon; fees; lease quote; residual / purchase option.

NAVA **Workshop rule**

No one is penalized for “unknown.” Unknown is useful when it creates a measurement task instead of a hidden assumption.

PRODUCT GOVERNANCE

Release governance and known consistency check

The Bible records one published-vs-brief discrepancy that should be resolved before the next public release.

! **Professional report allowance**

The live pricing page on 6 Aug 2026 displays 20 report generations per billing period. An earlier product brief in this project requested 25. Select one source of truth and update pricing, checkout, billing, in-app labels, report counters, terms and this manual together.

Release check	Owner	Pass condition
Calculation version	Product / Engineering	Report, interface and engine version agree.
Pricing and allowances	Product / Billing	All public and legal surfaces match.
Source status	Product / Content	Demo, quote and measured labels remain visible.
Download enforcement	Engineering / Support	Generation and download rules behave as described.
Login visibility	Design / Engineering	Account state and remaining allowance are obvious.
Report completeness	Product / QA	Intermediate and complete report flows are clear.

NAVA **One release, one truth**

A user should never have to compare the pricing page, checkout, dashboard and legal terms to discover what they bought.

REFERENCE

Official source set

This edition was aligned to the public product and legal pages available on 6 August 2026.

Product home	printprofitnavigator.app
Calculator and live demo	printprofitnavigator.app/calculator and ?step=results
Methodology	printprofitnavigator.app/methodology
Pricing	printprofitnavigator.app/pricing
About	printprofitnavigator.app/about
Registration insight	printprofitnavigator.app/insights/registration-machine-index
DTG vs DTF insight	printprofitnavigator.app/insights/dtg-dtf-cost-sustainability
Privacy Policy	printprofitnavigator.app/privacy-policy
Cookie Policy	printprofitnavigator.app/cookie-policy
Terms	printprofitnavigator.app/terms
Withdrawal Information	printprofitnavigator.app/withdrawal

NAVA

Versioning note

Product functionality, pricing, report allowances and legal wording can change. Update the Bible whenever the live product version changes.

PRINT PROFIT NAVIGATOR

by LOOM2MOON

BETTER INPUTS.
BETTER QUESTIONS.
BETTER PRINT DECISIONS.

The calculator produces the result.
The team owns the assumptions.
Nava helps everyone understand both.