



Tube & Pipe Cutting **Optimization** API

Cutting tube, pipe or hollow section to length is a 1D cutting-stock problem — and the same engine that powers the CutOptim app is callable over HTTP. Your ERP, estimating or MES software sends the cut list and the bar lengths as JSON and gets back the optimized cut plan, the bar count and the yield — no browser, no clicks.

15–30%STOCK WASTED, IN-ORDER
CUTTING**1D**

POST /v1/OPTIMIZE/1D

REST

JSON · OPENAPI 3.1

Live

SAME ENGINE AS THE APP

Live today — not a pre-release. The plan an API call returns matches what the CutOptim app shows.

Why fabricators need it

Cutting a job of tube or pipe in the order it appears on the list wastes a published **15–30% of the stock**. A 1D optimizer rearranges the cuts across bars to bring waste well below that.

Doing it by hand does not scale to hundreds of parts. Doing it **inside your own software, through the API**, does — on every job, automatically, instead of in a spreadsheet.

MANUAL



15–30% waste

OPTIMIZED



well below

What you send, what comes back

Send the part lengths (with quantities) and the available bar lengths and prices as JSON. The response carries the full cut plan bar by bar, the bar count, the yield, the total length sawn, and the usable off-cut on each bar — kerf already deducted.

Ask for `include:["csv","dxf"]` and the cut list comes back as a file inline. Attach a `meta` object (article number, order line) and it returns on every placed cut.

POST /v1/optimize/1d

```
{
  "parts": [
    { "length": 1200, "qty": 8,
      "meta": { "ref": "RHS-40x40" } },
    { "length": 2450, "qty": 4 }
  ],
  "stock": [
    { "length": 6000, "qty": 50, "price": 21.5 }
  ],
  "options": { "kerf": 2 }
}
```

200 OK

```
{
  "engineVersion": "1.0.0+8682",
  "summary": { "barsUsed": 5, "yieldPct": 92.4 },
  "bars": [
    { "stock": 6000,
      "cuts": [1200, 1200, 2450],
      "offcut": 1147 }
  ]
}
```

Free: `POST /v1/validate/1d` checks a job with no key and no quota. The reported off-cut is the usable remainder — the freeing kerf is already deducted.

Why build on this engine

Deterministic — reproducible for quotes and audits. The same request always returns the same cut plan: no randomness, no clock in the algorithm. A quote built from an API call can be reproduced months later for an audit or a repeat order, and results can be cached and diffed in tests.

LIVE TODAY

The same engine as the app, on POST /v1/optimize/1d — not a pre-release.

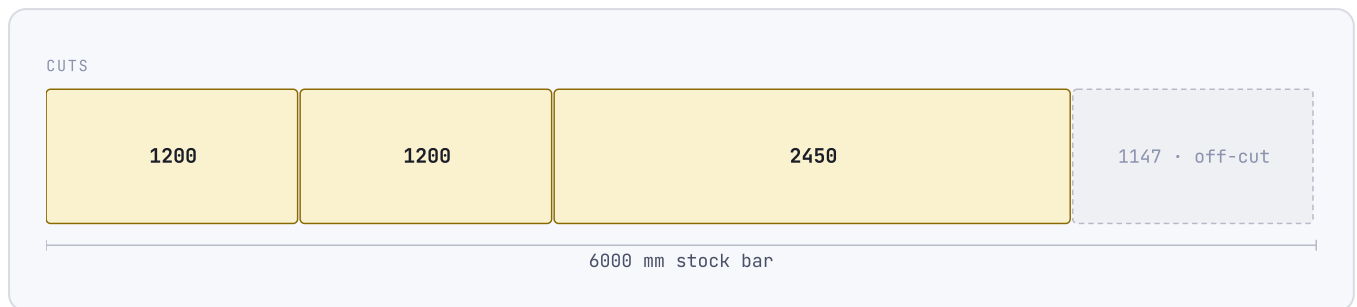
COST OR WASTE

Send several bar lengths with prices; minimizeCost ranks by total stock price and returns totalPrice.

META PASSTHROUGH

An article number or order line on each part comes back on every placed cut, so the plan reconciles.

What the plan looks like



One 6000 mm bar from the response above — three cuts and the usable 1147 mm off-cut (the freeing kerf already deducted). The API returns every bar in the job like this.

Integrate in three steps

- 1 **Validate for free** — POST /v1/validate/1d confirms your payload with no key and no quota.
- 2 **Get a sandbox key** in the dashboard and start the 14-day trial.
- 3 **Call optimize** and read the plan straight into your ERP, quote or machine file.

Pricing

€49 /month

- 10,000 requests / month — hard cap, no overage, no surprise bill.
- 14-day trial · billed in EUR.
- Higher volume or separate staging keys? Tell us your numbers.

Try it on your cut list

Send us a sample job and we'll return the plan the API produces on your own data. Or start the 14-day trial and call it today.

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SCAN TO OPEN
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