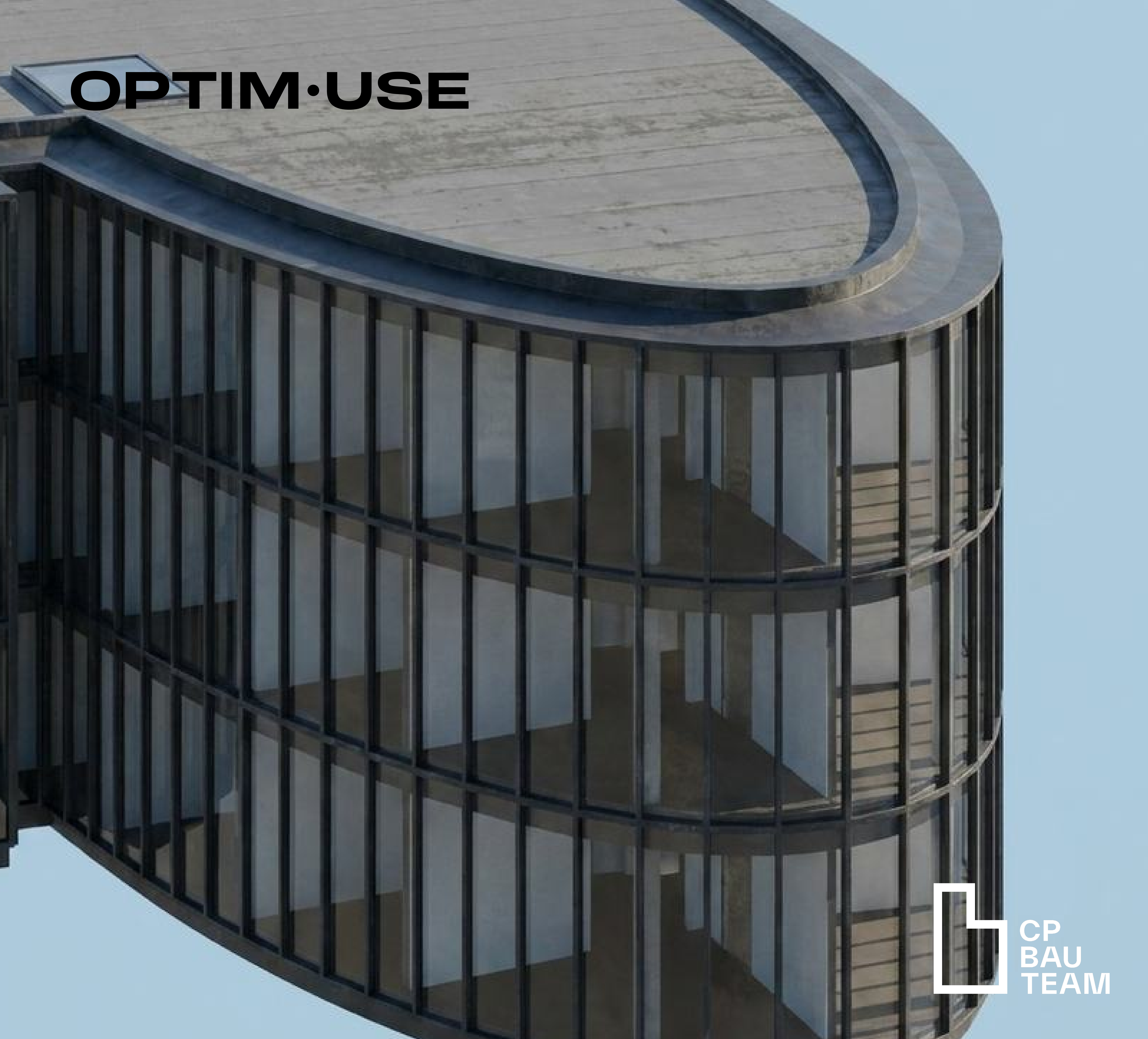




# OPTIM·USE



## 520 production variants instead of a blanket area-based calculation.

### PROJECT

Fit-out of several upper floors of a landmark tower. The only inputs were a functional performance specification, 2D DWGs and PDFs, no quantities. Main trade: an activated metal chilled ceiling.

### METHOD

The 2D drawings were turned into a BIM model in ArchiCAD. Every single panel was captured digitally and classified by status, geometry and cut-outs.

### RESULT

A reliable quantity take-off instead of an estimate: 2,932 panels captured and classified across 3 floors. On the main floor, 929 panels were analysed in detail and 520 variants identified from them, in under 3 days.

# 2,932

Individually captured ceiling panels

1,050 NEW, 1,846 EXISTING, 36 REPLACED

# 520

Different variants

FROM 929 PANELS ON THE MAIN FLOOR

# 3 days

To a costing-ready data set

AFTER APPOINTMENT

## INITIAL SITUATION

A high-rise office building in North Rhine-Westphalia with over 43,000 m<sup>2</sup> of lettable space. Several upper floors are being refurbished. The tender contains drawings but no quantities. The main contractor has to work out the quantities itself.

At its core is the activated metal chilled ceiling, whose cost cannot be estimated by area.

Almost every panel is cut differently, around sprinklers, smoke detectors and columns.

Every deviating panel has to be set up separately at the factory. These changeovers drive the price, not the square metres.

## METHODOLOGY

OPTIMUSE converts the existing 2D documents into a BIM model and derives a reliable quantity take-off from it:

### 01

BIM model in ArchiCAD  
→ from 2D drawings and the functional performance specification, focused on the ceiling panels across three floors.

### 02

Classification  
→ every panel classified semi-automatically by status, geometry (to the millimetre) and cut-outs. This shows which panels are genuinely identical – and how many variants there actually are.

### 03

Usable data set  
→ Excel lists per floor, element ID per panel, IFC and ArchiCAD files on the project platform.

## WHY THIS SOLUTION STANDS OUT

The quantity take-off captures every panel individually and delivers the actual number of variants. That is what allows the chilled ceiling to be priced reliably, rather than on a rough area assumption.

- Not 929 panels but 520 real variants determine the price (52 of them with a column cut-out)
- A bid built on a verifiable figure rather than a rough estimate
- Protects against under-pricing (loss) and over-pricing (losing the job)
- The ceiling supplier confirmed the data as fully usable
- The model can be carried forward into detailed design and reused for similar enquiries
- Automated evaluation replaced around 12 person-days of manual quantity take-off, making it possible to work efficiently within the tender deadline

