BROCHURE

Octave Facets

Schematic engineering, built as data.



Schematics aren’t drawings anymore

For most of engineering history, a piping and instrumentation diagram (P&ID) worked one way: someone drew it, someone else read it and the engineering lived on the page. That held up when the drawing was the deliverable. It doesn’t hold up now.

Your plant depends on its engineering data long after the drawing is done, through construction, commissioning and decades of operation. When that data lives only as marks on a page, it fragments. A spec on one document stops matching the same spec on the next. The gaps surface later, when they cost the most to fix.

Octave Facets starts somewhere else. Schematics are data, governed by rules, not static pictures.

Whether you’re delivering the project or running the plant for the next 30 years, the same thing has to be true: the record has to hold.

Three disciplines. One idea.



Process

Octave Facets P&ID (formerly Smart P&ID) sets the process design basis as structured, rule-driven data.



Instrumentation

Octave Facets Instrumentation (formerly Smart Instrumentation) holds every instrument in one engineered record, from front-end engineering design (FEED) through operations.



Electrical

Octave Facets Electrical (formerly Smart Electrical) runs the electrical workflow, from load lists to one-lines and beyond.

Get the data right and the deliverables follow.

Where Facets works

Oil and gas. Chemicals and petrochemicals. Life sciences and pharma. Power and utilities. Food, beverage and retail. Water treatment. Facets is designed to deliver across some of the word’s most complex categories.



Facets P&ID: The process design basis, built as data

A P&ID is the master diagram of a process plant, detailing the pipes, valves, instruments, equipment and how they connect. Everything downstream leans on it. When it's a drawing, it's only as current as the last person to update it, and when it drifts, everything built on it drifts too.

Facets P&ID makes the diagram data. Every element is an object governed by your standards, so the rules do the checking as you design and the right call gets made early. The P&ID stops being a picture of the plant. It becomes a record you can search, filter and build on.

What you can do

- Filter the P&ID down to the task in front of you, whether that's commissioning, inspection or a single system
- Compare any two versions to see exactly what changed in the design basis
- Carve out part of a live plant, work on it, then merge it back as the new as-built
- Deploy in a single office, across a work-sharing team or in the cloud, at whatever scale the project demands

On the project, that means errors surface as the design is built instead of in the field. In operations, it means the as-built is a record, not a reconstruction.

See Facets P&ID in detail →

6 sites. 5,000+ P&IDs. 100M+ data records.

Bayer AG standardized on Facets P&ID, replacing legacy tools that in some cases were nearly 30 years old.

Facets Instrumentation: Every instrument, in one engineered record



Instrument engineering generates expansive detail per tag: datasheets, loops drawings, wiring, calibration, etc. Spread that across disconnected files and versions and it turns into a hunt. Which sheet is current? Which spec is real? What changed, and when?

Facets Instrumentation makes the instrument the record. Every tag is a single engineered object governed by your standards, so validation happens as you enter data and the loops, wiring and calibration stay tied to the tag they belong to. One source, current by default.

What you can do

- Open and update any instrument record without chasing files across folders and versions
- Validate data as you enter it, with rules that hold your standards in place
- Carry one record from front-end engineering design (FEED) through construction and into operations
- Reach the full history of the instrumentation and control systems years after handover

On the project, that means tighter design quality and fewer surprises. In operations, it means maintenance gets planned before an unplanned shutdown makes the decision instead.

See Facets Instrumentation in detail →

Under a day.

Royal DSM has a complete, accurate as-built instrumentation record available in less than one day after a change is made.



Facets Electrical: The electrical workflow, on one data model

Your plant needs a power distribution system that's safe, reliable and sized to the loads it carries. Getting there means running a chain of work: load lists, one-line diagrams, schematics, cable routing, then commissioning and operations.

Facets Electrical runs that chain on one data-centric, rule-driven model. Loads, buses, cables and schematics live in the same engineered model rather than in separate files kept in step by hand, and the rules hold your standards as the design comes together. Sized right. Accurate through operations.

What you can do

- Build the one-line and balance loads across buses
- Make cable connections from a reference catalog
- Generate schematics from the same model that holds the loads and connections
- Work task by task, focused on the job in front of you rather than the whole tool at once

On the project, that means a small job and a mega-project run the same way. In operations, it means the power system record holds for the full life of the plant.

See Facets Electrical in detail →

165 offices. 40 countries.

Worley standardized on Facets Electrical for cable projects, replacing in-house tools and spreadsheets managed by hand across multiple offices.

Everything meets in one place, by design

The hard part of a portfolio isn't the individual tools. It's getting their work to come together cleanly. Wire each tool directly to every other and you get a tangle: brittle connections, no clear record of what moved where and a new failure point every time something changes.

We take a different route. Each Facets discipline stays the authority on its own data and publishes that work into a shared environment. If you have to answer for what changed and when, that governance is the whole point.

Octave InConcert *(formerly HxGN SDx2)*

Engineering information management. Information from across the project is aggregated, made visible and handed over in a controlled, auditable way.

Learn more

Octave Forte 3D *(formerly Smart 3D)*

Facets defines what gets built and checks that it holds together. Forte 3D defines how it gets built in physical space: the plant model, the clash-checked layout, the basis for construction. Validated schematic data becomes the starting point for the model.

Learn more

Octave Sequence Enterprise *(formerly EcoSys)*

The project controls counterpart to the engineering work: project portfolio management, cost control and forecasting in one place, so you can see where a project stands and act before overruns land.

Learn more

Octave Attune EAM *(formerly HxGN EAM)*

The operating side: work orders, maintenance planning, reliability and the full history of each asset, so your teams move from reacting to failures toward preventing them. An as-built validated as engineering data, rather than reconstructed after handover, gives operations a record it can trust.

Learn more



Ready when you are

Bring us your biggest obstacles.
We'll bring the expertise it takes to solve them.

Talk to an expert

Explore Octave Facets

Read the ebook

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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