



WHITE PAPER

# Next step in control system engineering

Octave Facets Instrumentation



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# 1. Introduction

Engineering companies and plant owners look for engineering solutions that improve business and lower the risk of project execution and plant operations.

The basics of engineering have not changed that much over the years, such as specifying an instrument or connecting the wiring. What has changed are the business drivers, including:

- Schedule
- Time to market
- Cost
- Distributed engineering
- Project size

To best address these drivers, Octave offers Facets Instrumentation (formerly Smart Instrumentation). Take advantage of the solution's innovative capabilities to create and manage your control system engineering data.

## Why choose Facets Instrumentation?

# 2. Why choose Facets Instrumentation?

## 2.1 Market leadership

Facets Instrumentation is the clear market leader. This gives you many benefits, including:

### 2.1.1 Proven performance

More than 30,000 professionals use the extensively tested solution on projects in various industries and configurations. Benefit from user input and proven project execution scenarios.

### 2.1.2 User forums

Take advantage of a wealth of experience in the forum of ideas, requirements and specifications submitted by users.

### 2.1.3 Partners

With seamless interfaces to automation and other vendors such as Emerson, Honeywell and Fluke, you can benefit from their input combined with the powerful functionality of Facets Smart Instrumentation. For example, innovative marshalling with CHARM from Emerson and wireless design.



## Why choose Facets Instrumentation?

### 2.2 Cost of ownership

#### 2.2.1 Start from day one

Facets Instrumentation is delivered as a ready-to-use solution featuring engineering content such as default datasheets, a symbol library and an installation details library. This gives you a running start to beginning productive project execution.

Facets Instrumentation is widely used, which means there are many experienced personnel available. This is a definite benefit if you need to expand your staffing levels.

#### 2.2.2 Octave stands by you

We follow Octave's core value to stand by you, whether during project execution or plant operations. With Octave offices around the world, help is literally just around the corner. This lowers your risk and gives you peace of mind.

### 2.3 Value proposition

Facets Instrumentation is the proven, best choice with an innovative approach to control system engineering. Gain a clear value proposition to enhance your business.

#### 2.3.1 13 value proposition

- Innovative
- Rules- and relationship-driven for deliverables consistency
- Automation
- Workflow-driven
- Indispensable
- Change control
- Automatic creation of deliverables as data views
- Inspirational
- Opportunity to re-think the work process
- Automatic wiring
- Mass editing
- Integration with engineering and vendor solutions

# 3. Innovative capabilities

## 3.1 Build instrument lists for estimates and indexes

The development and maintenance of instrument indexes are critical functions of process control systems design and engineering work processes.

Associated index data, such as document cross references, I/O requirements, statuses and services, needs to be up to date and accessible to all members of the control systems team and related communities. Facets Instrumentation creates an integrated environment that automates the work processes of building, managing and publishing the instrument index.

Fit for the different process, power, mining and shipbuilding industries for the complete lifecycle from conceptual design all the way to operations.

## 3.2 Design and automatically create deliverables

Design and then automatically create your deliverables, such as loop diagrams, directly from the design base. Facets Instrumentation boosts productivity and creates a true representation of the design on the deliverables during all project stages. This gives you consistency through all of your deliverables.

## 3.3 Make the right decision early

The sooner you can fix a problem, the more money you can save, as Table 1 illustrates:

*Table 1: Costs increase when errors are found later in the workflow.*

Stage at which an error is found	Possible cost
Design phase	\$1
Downstream disciplines	\$50
Construction	\$1,000

Facets Instrumentation offers a powerful and unique rules engine that enables you to verify design while designing. This helps you avoid the costs of making a series of updates. You can also reduce the risk of finding a change late in the process. Enforce design practices even with changing resources.

### 3.4 Intelligent datasheets

Datasheets are key deliverables, so it's important that they are accurate for purchasing and maintaining the devices. The new datasheets available in Facets Instrumentation are not only industry-driven with respect to content but are also intelligent to help you input the right data with rules, such as gas or fluid duty types of processes and select lists to make faster and more consistent entries. Facets Instrumentation helps you quickly and consistently perform data entry.

### 3.5 Projects in projects

Projects within projects are common during the plant operational phase. Facets Instrumentation supports as-built projects. This enables you to execute projects such as revamps or plant modernizations while keeping your data consistent, avoiding risk during operations. This very complex work process, specified and driven by the industry, is fully supported by Facets Instrumentation. This is all to support the as-built workflow ensuring operations works with the latest and current data to make their decisions.

### 3.6 Open and flexible

With Facets Instrumentation, you can make specific modifications to meet specific project needs.

An application program interface can create interfaces to external solutions that complement Facets Instrumentation. Plus, an out-of-the-box interface with most automation vendors enables you to access their online component catalogs and drive DSC configuration. Powerful import capabilities enable data import from external sources to jumpstart design, increase productivity and boost data quality. Also, this interface can connect to your ERP solution, such as SAP, to support your plant maintenance operations.

Facets Instrumentation also offers the web API to enable connection to external complementary solutions.

### 3.7 Change management

The one thing that is certain in engineering is change. There is no problem with changes, as long as you know what changed and where it changed. Facets Instrumentation offers change management capabilities that highlight any changes and report on the variance between design versions, including clouding, changes or coloring.

### 3.8 Engineering standards-enabled

Facets Instrumentation supports industry engineering standards, often out-of-the-box, such as KKS for the power industry.

### 3.9 Connect to the physical design

At some point, instruments must be located in the 3D design model so that they can be located correctly, both process-wise and operational-wise. Facets Instrumentation offers an automated link to create the instrument's 3D representation based on the vendor dimensional data. The piping designer can place this 3D representation, ensuring that the isometrics and interference checking are correct.

### 3.10 Automated wiring

Facets Instrumentation helps you with one of the most time-consuming tasks: wiring. Comprehensive automatic wiring capabilities enable you to hook up the instruments and control system, automate the cross-wiring and verify the connectivity. The connectivity (relationships) associated with the rules is one of the most powerful capabilities in Facets Instrumentation. This also addresses one of the most time-consuming and error-prone tasks in control system design.

### 3.11 Integration with engineering tasks

Facets Instrumentation offers integration with upstream and downstream tasks, such as Octave Facets P&ID (formerly Smart P&ID), Facets Electrical (formerly Smart Electrical) and Forte 3D (formerly Smart 3D). Facets Instrumentation can be used for small, medium and mega-projects. The solution gives you the flexibility to work the way that best fits your needs, supporting both connected and disconnected worksharing. Facets Instrumentation covers the complete lifecycle from basic engineering through detail design, commissioning to operations and maintenance.

# 4. Clear choice

Facets Instrumentation is the clear choice over the next-best alternative (see Table 2). With an innovative approach to control system engineering, you can enjoy a solid value proposition to enhance your business and deliver real benefits.

Table 2: Facets Instrumentation shows a clear advantage over the next-best alternative.

Capability	Facets Instrumentation	Next-best alternative
Market leader	✓	
Instrument index	✓	✓
Automatic creation of deliverables	✓	
Rules-driven to make the right decision early	✓	
Intelligent datasheets	✓	
Project in projects	✓	
Open and flexible	✓	✓
Change management	✓	
Engineering standards-enabled (DIN, ANSI, KKS)	✓	
Connected to the physical design (3D)	✓	
Automated wiring	✓	
Integration with engineering tasks	✓	
Hosting support	✓	
Fieldbus design	✓	✓
Content (symbols, standards, etc.)	✓	

## 4.1 Proof-positive

To see specific tasks with associated value, see our Interactive Business case. This includes a specific case such as calibration and how it benefits you with information from customers, partners and an ROI calculator to see the true business value and more.

## 4.2 Choose Facets Instrumentation

To join the winning team and experience the benefits that Facets Instrumentation offers, [contact us](#) for more information.

## 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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