

What it is?

SNAP is an advanced AI-powered (Computer Vision) solution that compares images or images against PDF drawings to automatically detect differences.

By replacing labor-intensive visual inspections with automated analysis, SNAP delivers a faster, more reliable, and fully traceable verification process, minimizing human error while reducing review time and costs.

Key Use Cases

- **Simulator Physical Fidelity**

SNAP compares images of real nuclear plant control rooms with their simulator counterparts to verify that the simulator accurately replicates the physical environment.

- **Manufacturing Verification**

SNAP compares engineering drawings and design documentation (PDFs) against as-built conditions, validating that manufactured and assembled components conform to design specifications.

What it Compares

Plant Vs. Simulator

- **Alarm panels and status light panels**

SNAP automatically analyzes and compares:

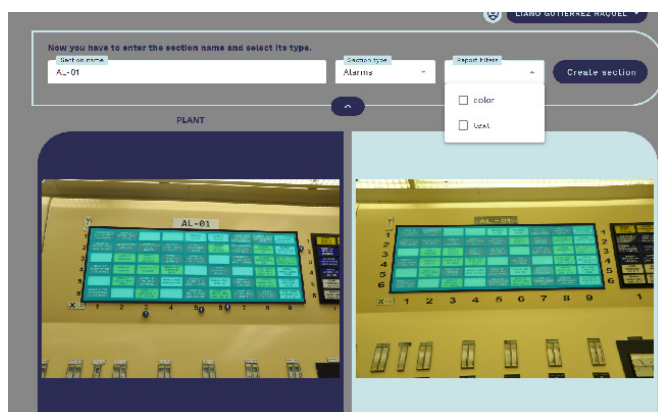
- Text and inscriptions
- Colors

The solution also provides configurable comparison modes, allowing users to validate only text or only color attributes when required.

- **Nameplates or engravings**

By analyzing two images, SNAP:

- Detects and locates nameplates or engravings automatically.
- Compares text content and colors.
- Can be trained to identify and classify specific label categories (e.g., Train A, Train B, etc.).



Documentation vs Reality

- **Alarm panels and status light panels**

By comparing engineering documentation with field photographs, SNAP verifies:

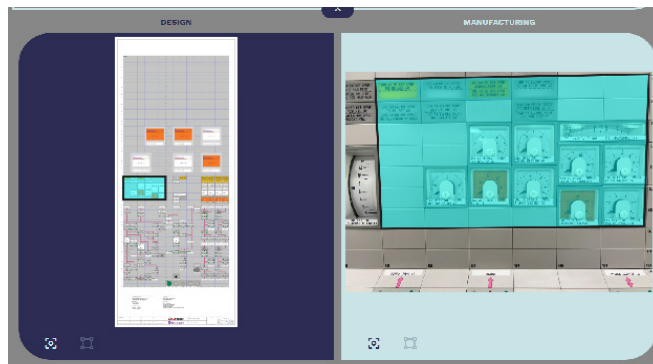
- Text content
- Color configuration

Users can selectively include or exclude individual comparison criteria to adapt the validation process to project-specific requirements

- **Instruments**

SNAP can identify the instrument and compare: Type, Text in label, Color and Measurement (scale, units, text)

Users may optionally exclude one or more comparison criteria: Type, Label and Measurements (color, scale, units)



Specialized Nuclear Industry Expertise

SNAP has been trained to recognize text in more than 80 languages, including multiple writing systems such as Latin, Chinese and Cyrillic alphabets. This capability enables reliable inspections across international facilities, multilingual documentation, and globally distributed projects.

SNAP has been specifically developed and trained for standard Westinghouse PWR, GE BWR and KWU Mosaic-type technology environments

The solution currently recognizes and classifies five different indicator types, enabling highly specialized validation within nuclear control room environments.

For each analyzed image, SNAP:

1. Automatically locates instruments.
2. Identifies the instrument type.
3. Verifies the instrument label.
4. Checks measurement scale, color, and units.
5. Reports any discrepancies between the reference and the target image.