

**abhisam**

**Discover the power of e-learning!**



**HAZOP XPRTU  
(Software based Training)**



## Introduction

HAZOP is short for Hazard and Operability Study. HAZOP is a widely used risk assessment and risk management technique all over the world in a wide array of industries like Oil & Gas, Chemicals, Pharmaceuticals, Food & Beverage, Power generation and many others. Though the technique is widely used, there are hardly any resources available for somebody to learn and master the technique.



Currently available resources are either printed books (many of which were written ages ago and are either out of print, or not very relevant to today's industrial operations), or some white papers floating on the internet, or a few classroom style training courses (which may not be at a convenient location or time).

Hence Abhisam has come out with this stunning e-learning software on HAZOP, that is not just another textbook, but a full fledged e-learning course which has animated simulations, videos, interactive exercises and other material that make learning a subject (even like HAZOP) fun and easy!

In fact you may not have seen anything like this software before, hence we have a name for it– an XPRTU! The name XPRTU (pronounced as expert-you) signifies that it can create an **expert out of you** after you go through it. This XPRTU software consists of more than 160 pages of rich media and matter made with inputs from the world's leading experts in the HAZOP technique, who have several person-years of experience in conducting HAZOPs.

So if you're tired of trawling the internet for some good learning material on HAZOP, or you find the available texts boring, or out of date-this is the solution that you're looking for! Plus you can also get Certified for free, if you pass the associated online exam.

We have Online, Download and Enterprise versions of this software.

If you wish to deliver this course to a large number of people (like for example your employees or colleagues / contractors), then you can opt for our Enterprise version. Simply login to our Learning Management System over the internet and take the course! Note that the Enterprise version has additional Advanced modules as well, which are not available in other versions.



## Key Features of the HAZOP XPRTU

These are some features of the HAZOP XPRTU that you will not find anywhere else.

- No boring lectures by anybody
- Interactive Real Life animations & Simulations
- Situational videos
- Easy to understand text and graphics
- Self Assessment Test
- Real Case Studies with realistic data
- Formats that you can use in your own HAZOP studies!

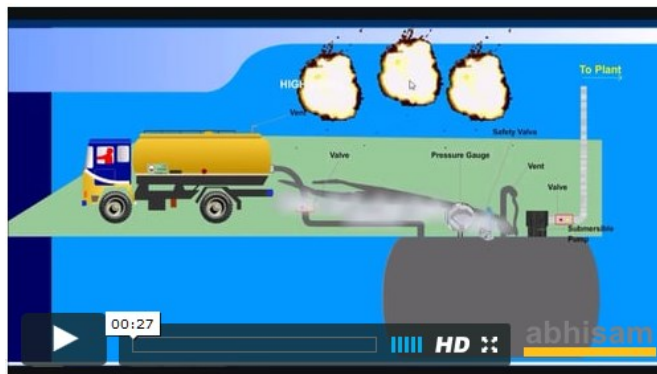
## Customer Speak

*“ I have worked in the International Oil & Gas industry for more than 30 years. I have used and recommend Abhisam products to all engineers & technicians in our industry. No praise is too great! ” John Longden, Petroleum Training Institute, UK*

HAZOP

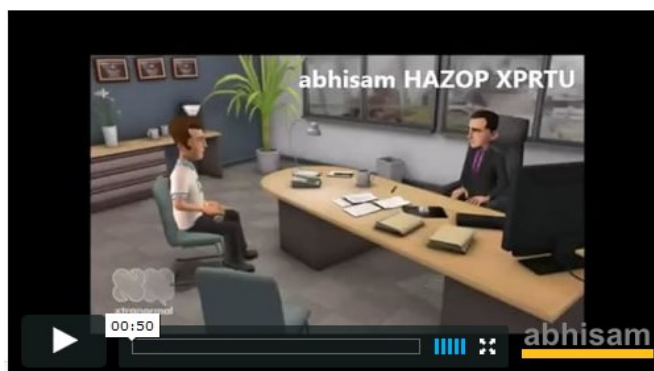
## Animations & Simulations

Learn HAZOP via realistic animations and simulations. Below is a low resolution screenshot of what you will get in the actual software. This is just one example, there are many more in the HAZOP XPRTU.



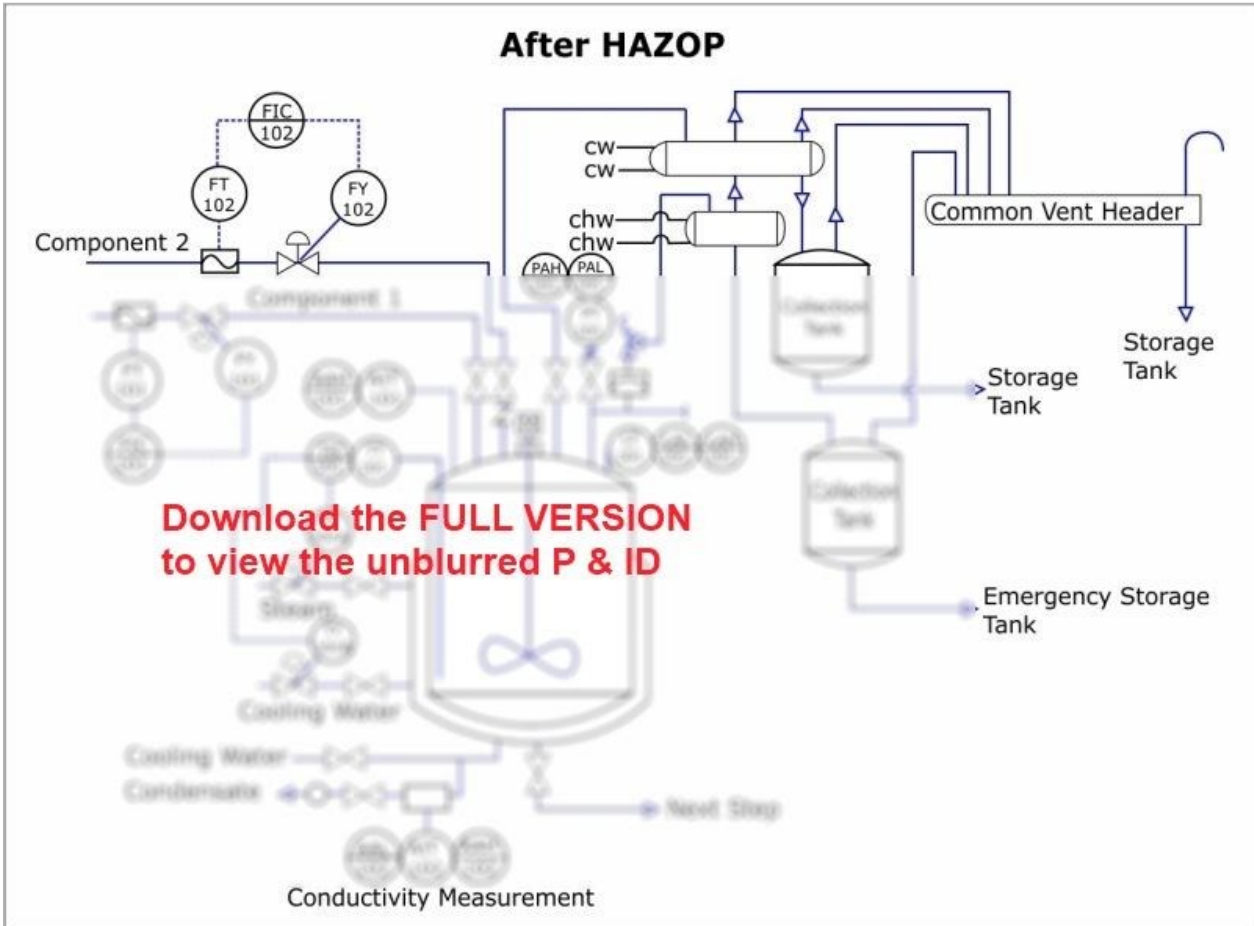
## Situational Videos

Also get situational videos, like the one here that demonstrates how management support for HAZOP is essential.



## Complete Case Study

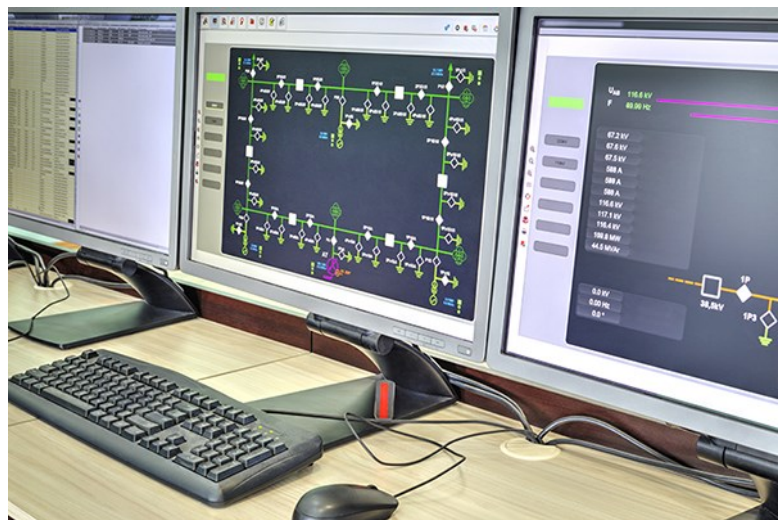
Get a complete Case Study of a HAZOP for a processing unit, with actual P & IDs, animated processes and actual worksheets.



Low-res screen grab

## Learn CHAZOP

This learning software also includes Computer HAZOP (CHAZOP for short). In today's world of plants and processes being controlled by computerized DCS/PLC/SCADA/SIS, this is essential to know.





## Self Assessment Test

Gauge your own understanding of the subject via the included Self Assessment Test. This also prepares you for the actual Certification Test. Below is a screenshot of one of the questions from the Self Assessment Test.

**Q4.**

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If you have been tasked with leading a team to carry out a CHAZOP for a DCS in a plant, that handles hazardous materials, what information is absolutely a must?

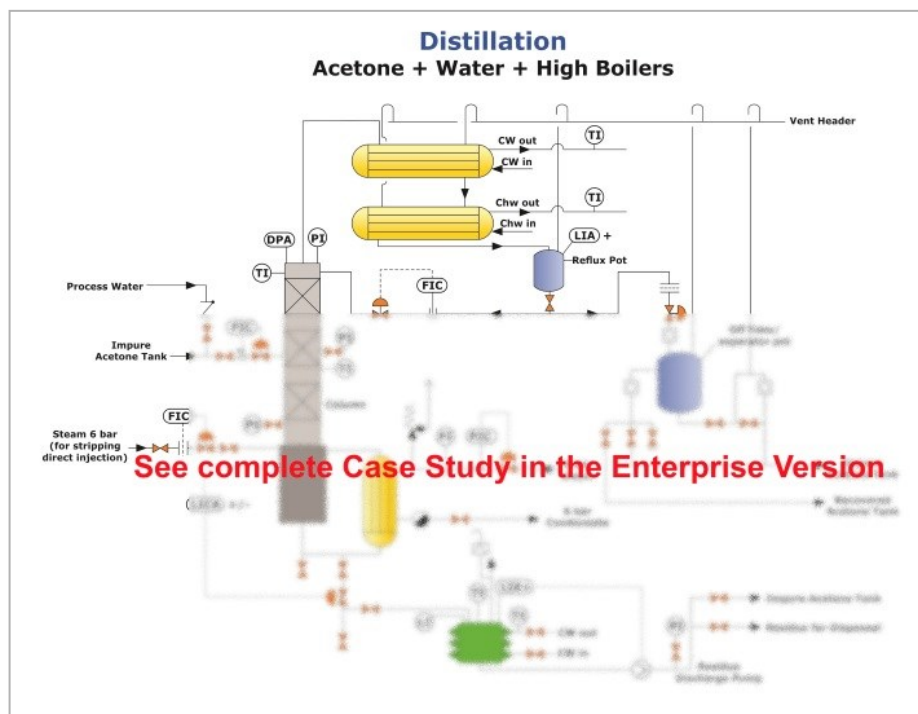
- Material Safety Data Sheets of all materials handled in the plant
- P & IDs
- DCS System Architecture
- None of these

SUBMIT

Low-res screen grab

## Advanced Modules

When you get the Enterprise version, you also get access to some additional Advanced modules. These are actual real life Case Studies of HAZOP conducted on different units. Here is an example of a Distillation column HAZOP below.



Low-res screen grab



The following is a Table of Contents of the HAZOP e-learning course. Note that the Advanced Module is only available in the Enterprise version.

## MODULE 1 - Basic Concepts

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- Introduction
- What is HAZOP
- More about HAZOP
- Use of HAZOP
- History of HAZOP
- History of HAZOP contd
- HAZAN
- HAZOP and HAZAN
- FMEA
- Hazards and Risks
- Types of Hazards-Fire & Explosion
- Types of Hazards-Toxic Materials
- Preliminary Hazard Analysis
- Consequence Analysis
- Risk & Harm
- Risk Graph
- Risk Reduction
- Risk Reduction-2
- The ALARP Principle
- Risk Reduction in Process Plants
- Risk Reduction explained
- Risk & Cost Calculations for bean counters
- Examples - Cost Justification
- Layers of Protection
- Layers of protection in the Process Industries
- Diversity
- Diversity - Example
- Preventive and Mitigative Layers

## MODULE 2 - HAZOP Methodology

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- Introduction
- Intentions & Deviations-1
- Causes & Consequences
- Benign Consequences
- Method Outline
- Node Identification
- Guide Words
- Parameter Deviations
- Deviation Recognition
- Why deviation recognition fails
- Deviation example video findings
- Types of Deviations-1
- Example-Chlorine-1
- Example-Chlorine-2
- Types of Deviations-2
- Types of Deviations-3
- Types of Deviations-4
- CIP Example
- SOP Deviations Examples
- Tanker Unloading Example
- Normal Operations
- Guide Word High
- Deviation & Consequence
- Guide Word High
- Deviation & Consequence
- Guide Word Low
- Deviation & Consequence
- Guide Word Low
- Deviation & Consequence
- Guide Word Low
- Deviation & Consequence
- Guide Word Reverse
- Deviation & Consequence
- Guide Word Other Than
- Deviation & Consequence
- Before starting the HAZOP
- Other Documents
- HAZOP Worksheet



- HAZOP Worksheet
- Guide Word High
- Guide Word Low
- Guide Word Reverse
- Guide Word Other Than
- HAZOP Recommendations
- HAZOP Recommendation Sheet-1
- HAZOP Recommendation Sheet-2
- The P & ID after HAZOP
- Summary
- Boolean Logic & Safety-1
- Boolean Logic & Safety-2
- Protection Measures
- Additional measures
- Boolean Logic & HAZOP
- HAZOP & Human Errors
- HAZOP Limitations

## MODULE 3 - HAZOP Types, Standards & Legal Requirements

- HAZOP Standards
- HAZOP Standards-IEC 61882
- ISO 14001
- HAZOP & ISO 14001
- HAZOP as legal requirement
- The Seveso Directives
- HAZOP-OSHA
- HAZOP-UK HSE
- Types of HAZOP
- Greenfield HAZOPs
- Various Stages
- Concept HAZOP
- Concept HAZOP Worksheet
- Concept HAZOP Worksheet-1
- Concept HAZOP Worksheet-2
- Concept HAZOP Worksheet-3
- Basic Design HAZOP
- Basic Design HAZOP Worksheet-1
- Basic Design HAZOP Worksheet-2
- Basic Design HAZOP Worksheet-3
- Detailed HAZOP
- Commissioning HAZOP
- Brownfield HAZOP
- Brownfield HAZOP Process
- CHAZOP
- Need for CHAZOP
- CHAZOP Methodology
- Typical CHAZOP Format
- CHAZOP Example-Part 1
- CHAZOP Example-Part 2
- CHAZOP Example-Part 3
- CHAZOP Summary





## MODULE 4 - Managing HAZOPs

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- Why is managing HAZOPs so important?
- Why is managing HAZOPs so important?
- Management Support
- Management Support-Example
- HAZOP Team
- HAZOP Team-Example
- Team Work
- HAZOP Consultants
- Role of HAZOP Leader
- Role of HAZOP Secretary
- Role of HAZOP team members
- Number of team members
- Team Skill Level
- HAZOP Documentation
- Auditing a HAZOP

## MODULE 5 - Case Study

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- The Process Description
- The Plant
- The P & ID
- Carrying out the HAZOP
- HAZOP Worksheet-1
- HAZOP Worksheet-2
- HAZOP Worksheet-3
- HAZOP Recommendation Sheet-1
- HAZOP Recommendation Sheet-2
- The P & ID after HAZOP
- The Audit of the HAZOP
- An actual incident
- Learnings from the incident
- A final word

## Module 6 - Self Assessment Test

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This self-assessment test helps learners evaluate their own knowledge about HAZOP. The test consists of several questions.

## ADVANCED MODULE - Case Studies of Units

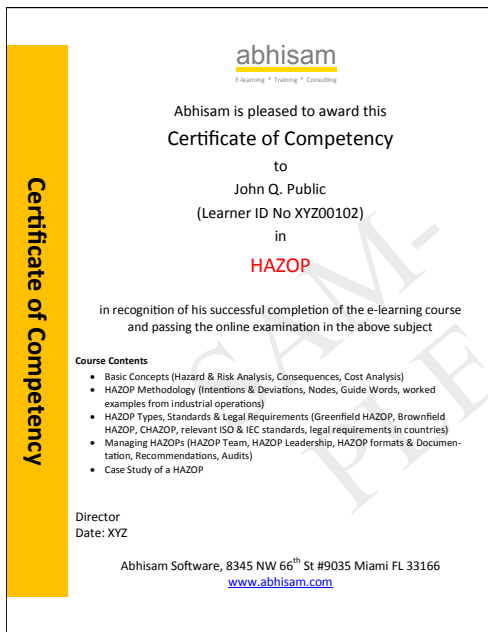
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- Case Study 1 – Complete HAZOP of a Distillation unit
- Case Study 2 – Complete HAZOP of a Storage Tank
- Case Study 3 – Complete HAZOP of a Filtration unit
- Additional Mock Exam before Certification exam

Advanced Modules are only available in the Enterprise version.

Get Certified for free. Earn Electronic Badges too! Display and Share them online.

After going through the XPRTU software, every learner can take the Abhisam Online Exam for free and earn a Certificate of Competency, as well as an Electronic Badge, via Credly, for free! Abhisam is a verified Credly badge issuer and your Abhisam badge can be easily added to your LinkedIn profile, to demonstrate online that you are skilled in HAZOP.



Your badge and certification information will then appear under the Certifications section of your LinkedIn profile. The title of the achievement, will link to a verification page where additional information is available, including a longer description, evidence, the badge image and criteria for the accomplishment, details about the issuer, and validation of the achievement's authenticity. Thus your skill is easily verifiable by any third parties including potential clients, customers, employers and peers.

**This is a great way to enhance your public profile regarding your skills and is available for all learners.** You can also add your Badge to the LinkedIn feed, where you can announce your achievement to your LinkedIn connections.

### Display your achievement badge to Facebook

Similarly you can post to Facebook and other social media platforms easily via Credly.

### Conformance to global standards- Mozilla Open Badge framework

Furthermore, Abhisam badges conform to the Mozilla Open Badge framework and can be easily added to your Mozilla back pack.



Note: The Credly, LinkedIn, Facebook and Mozilla OpenBadges logos belong to the respective organizations



## HAZOP Demo

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By now you have seen how detailed and comprehensive the course is. A brief demo of the HAZOP course can either be viewed online or downloaded from the Abhisam website. Please see link <http://abhisam.com/free-trial-courses/> to do this.

### Demo of the full version

If you need a demo of the full version (say for presenting to your management), we can arrange a live online demo, where we will step you through the entire course. This will require a good internet connection at your end.

### AVAILABLE VERSIONS

The HAZOP e-learning software is available in three versions as outlined below.

#### Online Version (Windows, Mac or tablets)

Access is online through our web based Learning Management System, using a standard browser such as Internet Explorer or Mozilla Firefox. Access is for a period of ONE YEAR. This version includes one seat to take the online exam and certification.

#### Download version (Windows OS only)

This version allows the learner to download and install the software on your own PC / laptop running Windows OS (XP, Vista, 7, 8/8.1 or 10). It also includes online exam and certification. Internet access is required for license activation at the time of installation & for periodic random license checks that happen in the background. The online exam must be taken within one year of purchase of the license. Period of License is THREE YEARS.






#### Enterprise Version (Cloud based)

This version is for organizations or enterprises who wish to train their employees / contractors in HAZOP. Every learner gets access to the Enterprise version of HAZOP on our Learning Management System via a standard browser such as Internet Explorer or Mozilla Firefox, with Flash enabled (to view animations). The Enterprise version is available for groups of 10 or more learners. This is a subscription pricing model with a set price per year of access (per learner). Ideal for organizations, enterprises or universities. Every learner gets an Online Certification Exam Seat during the period of the subscription. Nothing needs to be installed on the organizations servers or any learner's device, all access is via Internet.

Advanced modules, including the Mock Exam are available only in the Enterprise version.



## VERSIONS

Feature	Online	Download	Enterprise
All Modules except Advanced Module	✓	✓	✓
Advanced Modules	✗	✗	✓
Self Assessment Test	✓	✓	✓
Online Exam & Certification	✓	✓	✓
Access	Online access	Download to your PC/laptop	Online access
License	One Year	Three Years	One Year
Operating Systems	 or 		 or 
Devices	PC/Laptop/Mac/Tablet	Windows PC/Laptop	PC/Laptop/Mac/Tablet
Ideal for	Individuals	Individuals	Organizations





### *How to order*

This course can be ordered in a variety of ways, by online payment via credit or debit card, via wire transfer payments, physical checks, Paypal or several other options. Ask us for details.

Please send your requirements to

[sales@abhisam.com](mailto:sales@abhisam.com)

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