



Getting Started with PI at your University

First Semester Tools for Success

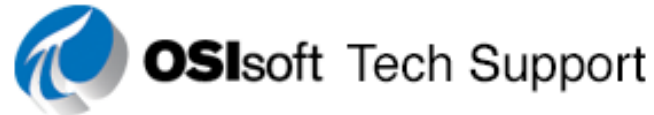
Presented by **Dr. Erica Trump**



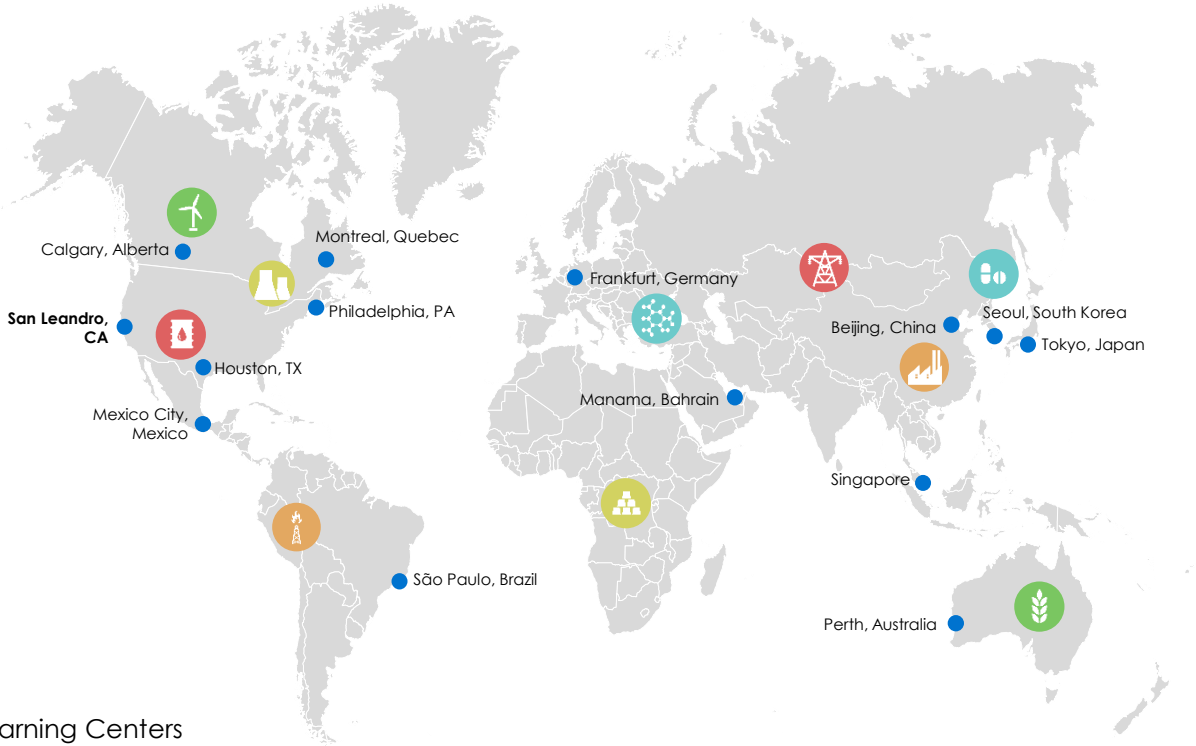
TRANSFORM YOUR CLASSROOM
RESEARCH
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Many resources to help you get started



Classroom Training



Get some face time

Attend a class at one of our OSIssoft learning centers

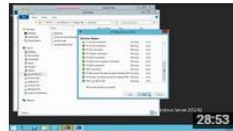
On-Demand Learning



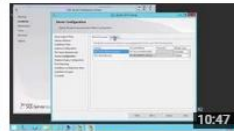
OSIssoft: Upgrade to PI Server 2015: Full Walk-through (from...
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OSIssoft: Prepare for an Upgrade to PI Server 2015 (from version...
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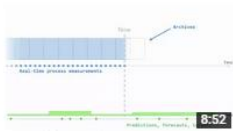
OSIssoft: Install a New PI Server 2015: Full Walk-through (AF...
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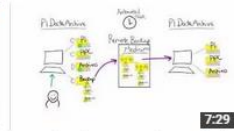
OSIssoft: How is Future Data Stored in the PI System?
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OSIssoft: Live Demo of Core PI System Products from 2015...
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OSIssoft: What Are Backups of the PI Data Archive & Why Are They...
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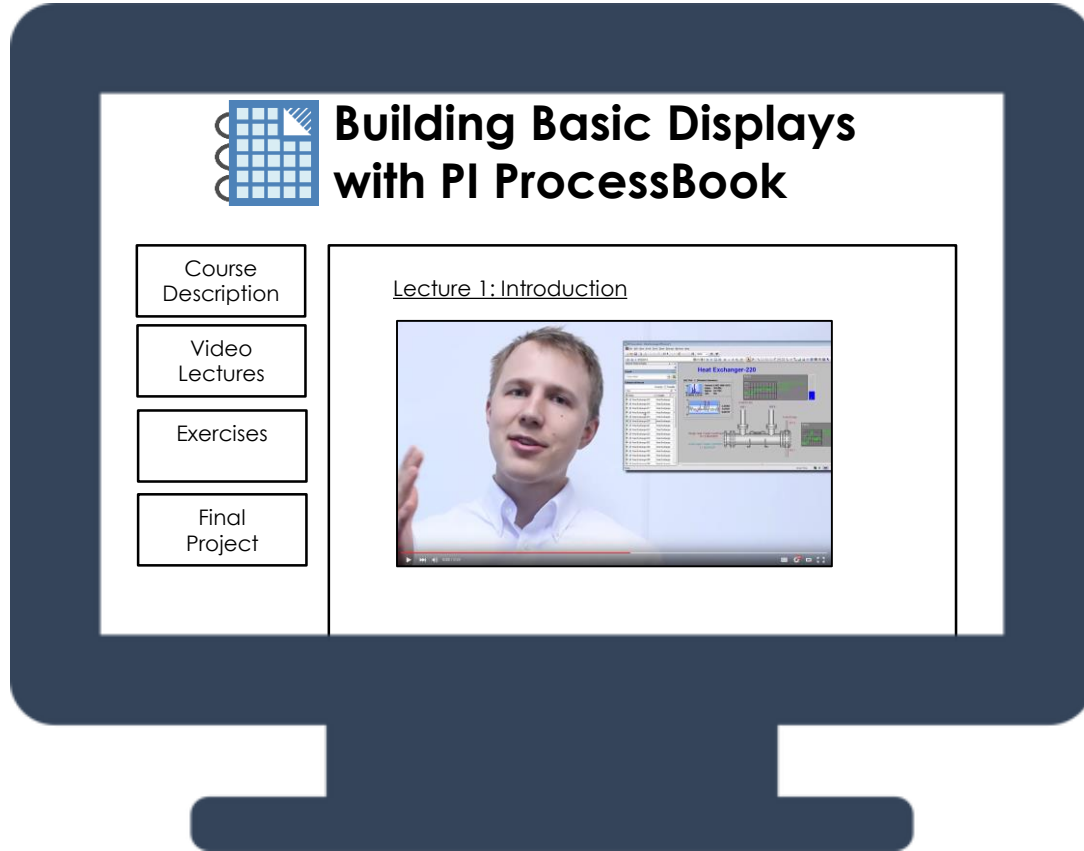
Learn about industry uses cases



Playlists for easy product learning

PI System Basics, **PI Coresight**, PI DataLink, PI Integrator for Business Analytics, PI Integrator for ESRI, PI Interface for UFL, PI Cloud Connect, Configure PI Server Security, PI System Installation Walk-Through, ... and many more

The screenshot shows a YouTube video player. The video content is a PI Coresight dashboard for 'Bioreactor 03'. The dashboard includes a 3D model of a bioreactor and several data points: Substrate Feed Rate (0 L/h), Acid Flow Rate (0 L/h), Base Flow Rate (0 L/h), Agitator Rate (0 L/h), Monthly Biomass Production (22,103 g), and Monthly Antibiotic Production (2,353.9 g). A red box highlights the biomass and antibiotic production values. The right side of the player shows a playlist titled 'PI Coresight' with 7 videos, including 'OSIsoft: How to Quickly Create a New Display in PI Coresight 2016 [v3.0.0.4]'.



Learn at your own pace

Courses tailored to the specific skills you need

Community support and feedback

Small Private Online Courses








PI Visualization Series

 		
Creating Basic Reports with PI DataLink	Building Basic Displays with PI ProcessBook	Advanced Displays with PI ProcessBook

PI Administrator Series

 		
Configuring a Simple PI System	Implementing PI System High Availability	Configuring PI Data Archive Security

PI Asset Framework Series

 	 	
Building Asset Hierarchies with PI AF	Configuring Analytics with PI AF	Enabling Condition Based Maintenance

PI Developer Series

	 	
Developing Applications with PI AF SDK	Programming in PI Web API	Configuring Calculations with PI ACE

The elements and attributes help you successfully organize assets into hierarchies and unify data from multiple sources, such as real-time data from the PI Data Archive; metadata from relational sources; or calculated data from PI AF formulas. Additionally, you learn how to template elements and add units of measurement (UOM) to standardize models across different assets or units of an organization. Then, you will learn to leverage templates to scale models out and compare like assets using OSIssoft client tools. This course also covers tag creation through PI AF.

This course is self-paced for your convenience. Thus, there are no live components to the course, nor are there any required login hours. Please use the video lectures for instruction along with the course exercises to gain hands-on experience working with key concepts. Most importantly, get involved in the discussion forums here on the PI Square community and interact with your peers and experts both at OSIssoft and other organizations, post questions, answer questions posted by others, and overall help each other learn as you would in a classroom environment.

If you're enrolled in a facilitated session of this course, you also have the opportunity to earn a certificate of completion by submitting a final project to your course facilitator. Please see the final project for details.

IS THIS COURSE FOR ME?

This course is for beginning users of PI AF, but is open to anyone who wishes to learn more about building assets and hierarchies in PI AF, and asset-based data organization. This course is primarily suited for folks who are responsible for managing the PI AF database, since the tasks involve building elements and defining data to be associated with them.

However, any user who has read / write access to a PI AF database (even if it is a "sandbox" environment) will benefit. In fact, having a good knowledge of the equipment and processes involved will lead to more meaningful models; so participation by process engineers and other subject matter experts is highly encouraged.

VIDEO LECTURES

Below are the video lectures for this course. We have placed the topics in the same order as they would be presented in a live instructor-led course. However, feel free to view the videos in any order, spread over any interval. You can also rewind and rewatch parts of the videos that you need to view again. Also be sure to check out the [Online Course Videos - Tips and Tricks](#) if your videos look fuzzy!

Introduction to PI AF

- Introduction to PI Asset Framework (AF)

PI System Explorer Basics

- Navigate in PI System Explorer (PSE)
- Connect to and Search a PI System
- Connect to, Create, and Share PI AF Databases

Introduction to PI AF Modeling

- Details About HVAC Systems
- Modeling Approaches in PI AF
- Create Elements and Attributes

Attribute Data References

- Create Attributes with PI AF
- Use Alternative Value Retrieval
- Create Attributes with Tables
- Use Linked SQL Tables in PI AF
- Create Attributes with Formulas
- Create Attributes with Streams

Create Templates in PI AF

- Introduction to and Advantages of Templates
- Convert an Element to a Template
- Use Substitution Parameters
- Group Attributes to Build a Template
- Use PI Builder Tool to Create Templates
- Introduction to Derived Templates
- Build Derived Templates in PI AF
- Expand PI AF Hierarchy & Templates

Build Tags in PI AF

- Use Advanced Substitution
- Revert Attributes to Templates
- Configure PI AF Templates
- Rapidly Deploy New Assets

Organize Elements and Attributes

- Use Categories to Organize Elements
- Move and Reference Elements in PI AF

RECENT CONTENT

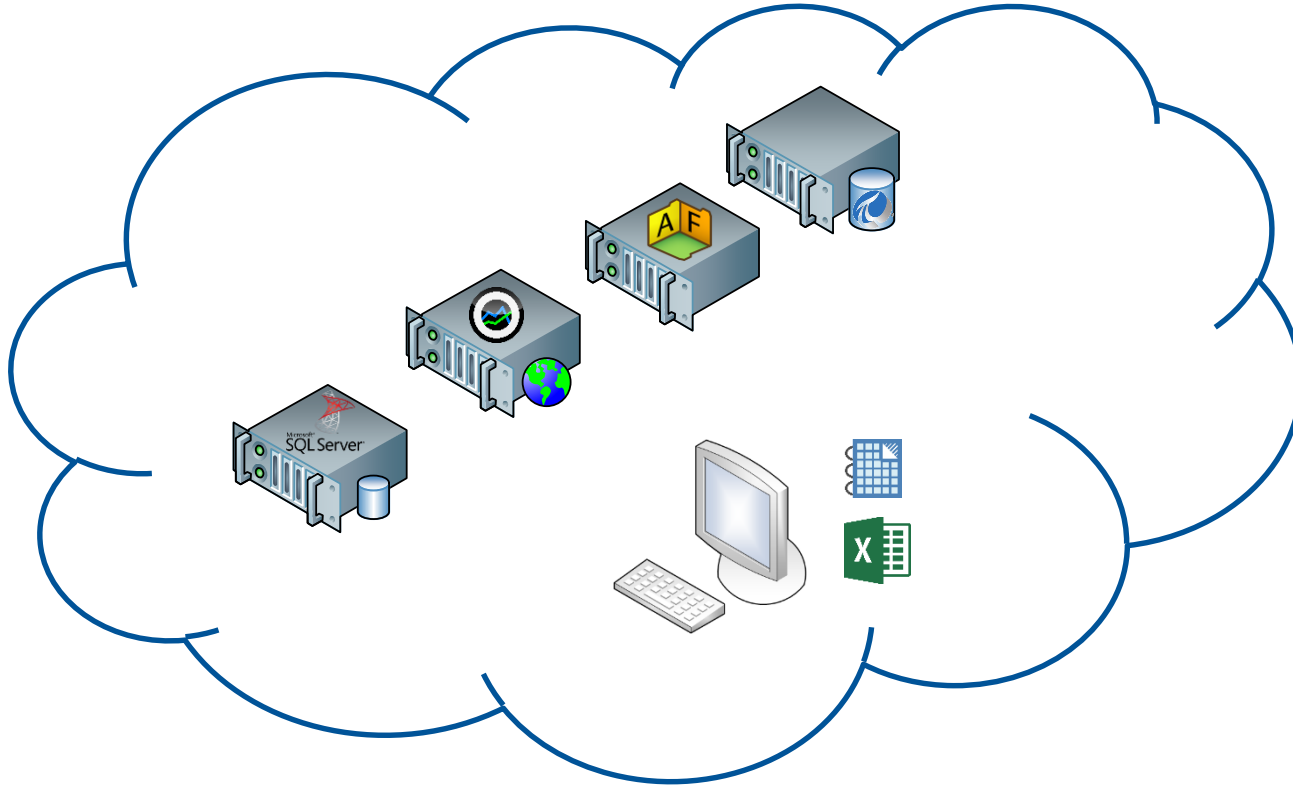
Filter by Categories & Tags

- Re: How to Relate AF Assets
- Re: Problems with Virtual Learning Environment
- Re: Building Asset Hierarchies with PI AF (Jan 30th 2016 -> Feb 17 2017) - Introduce yourself...
- Re: Eventframes and Value Type:Elements

The screenshot displays the OSIssoft PI AF Online Course interface. On the left, a tree view shows the hierarchy of elements under 'OSIssoft Research Lab', including 'Zone1', 'Zone2', and 'Zone3'. The main area shows a table of attributes for a selected element (BLR-02). The table has columns for Name, Value, and Time Stamp. The attributes are grouped into categories: Maintenance Info, Motor Monitoring, Name Plate, and Real-time Data. A right-hand pane shows configuration options for the selected attribute, including 'Configuration Item', 'Default UOM', 'Value Type', and 'Data Reference'.

Category	Name	Value	Time Stamp
Maintenance Info	Maintenance Type	None	1/1/1970 12:00:00 AM
	Vibration Frequency	25 Hz	7/30/2014 2:00:00 AM
Name Plate	Equipment Code	1	1/1/1970 12:00:00 AM
	Equipment Type	Blower	1/1/1970 12:00:00 AM
	Installation Date	7/1/1994 12:00:00 AM	1/1/1970 12:00:00 AM
	Manufacturer	Blown Away Mfg.	1/1/1970 12:00:00 AM
Real-time Data	Energy Usage Last Hour	1.22508043254693 kWh	7/30/2014 2:13:00 AM
	Fan Speed	1200 rpm	7/30/2014 2:00:00 AM
Real-time Data	Power	2.29999995231628 kW	7/30/2014 2:00:00 AM
	Status	Active	7/30/2014 2:00:00 AM
Real-time Data	Vibration Frequency	25 Hz	7/30/2014 2:00:00 AM
	Voltage Rating	230 V	1/1/1970 12:00:00 AM

Virtual Learning Environment



Learning Sandbox

The Virtual Learning Environment (VLE) is a fully functional PI System running in our Microsoft Azure cloud, letting you try anything without fear of damage to your own production data.

Have a question or technical issue?



Ask The Community on



Ask an Engineer from





Online Learning Courses
Now Available!

REGISTER NOW >>

LATEST OSISOFT NEWS

Tweets

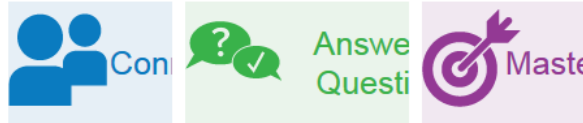
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ASK PISQUARE COMMUNITY

Type your question

Ask it



MONTHLY LEADERBOARD

Top 10 [My Rank](#)

- 838th Jason Yeh 5 Points
- 867th Shankar Nar... 3 Points
- 867th Dennis Kilgore 3 Points
- 867th Francois Aubin 3 Points
- 867th Petros Kiousis 3 Points

Make friends!

Connect with the OSIsoft community in PI Square

Share knowledge with other users of the PI System

Find answers to your questions

Academic Users Group

Join the conversation!



Teresa Young Jan 27, 2017 4:09 PM

Lehigh Hackathon December 2016

This question is from [Nicolas Madrid's Blog](#) 1 post

CSMART Overview Poster.pdf

Version 1

Home News

Overview Content

OSISOFT ACADEMIC

To learn more about the Academic Program, visit our informational space for Academic Use.

In December, we completed some pictures for the night to help

Both of the VR Project Energy Data



PI UFL Connector and wireless sensor system integration

Posted by Nicolas Madrid Mar 3, 2016

Hi everyone,

My name is Nick Madrid and I'm a graduate student at UC Davis. I'm working on developing sensor systems for various applications and I'd like to share my experience integrating my sensor systems with the new [PI UFL Connector](#). The PI UFL Connector is a RESTful service that accepts PI data in the form of a HTTP PUT request and automatically stores it in the PI System (see link for more info).

The particular project I'll be describing here is designed to monitor air parameters (T, RH, CO2, VOCs, airborne particulates) within wineries and creameries where researchers use swab sampling to learn about the environment's microbial community. The sensor units are battery powered and fully automated. They use an ARM Cortex-M3 microcontroller to periodically read from the sensors and send the data wirelessly from an XBee radio to a ConnectPort gateway. The gateway is wired to the facilities network over ethernet and performs the HTTP PUT request to send the data to the UFL Connector. The UFL Connector and PI System both run on the same system at the UC Davis winery.

I was very pleased with how easy it was to get the UFL Connector installed and running and the minimal amount of code required on the ConnectPort gateway to send data to the Connector. The gateway runs python, so I will share the simple python function I wrote to perform this PUT request:

```
01. def sendToPI(body):
02.     global httpError
03.     httpError = 0
04.     request = urllib2.Request(REST_address, data=body)
05.     request.add_header('Content-Type', 'text/plain')
06.     base64string = base64.encodestring('%s:%s' % (username,password)).replace('\n','')
07.     request.add_header("Authorization", "Basic %s" % base64string)
08.     request.get_method = lambda: 'PUT'
09.     try:
```

<https://pisquare.osisoft.com/groups/academic>

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Automate

In cooperation with Grid
Gritco In-Line Power Regu-
Technical and Non-techni-
distributed Harmonic Mitig



In-line Power Regulator

DERM

Utilizes existing DER in
of West Monroe Par
applications to utility in



OSISOFT ASSETS
Creating a Common

World Class Support

40%

of all requests
are resolved in
less than one day

60%

of all requests
are resolved in
less than one
week

4.7

OSIsoft customers
rate us **4.7/5** for
support
satisfaction

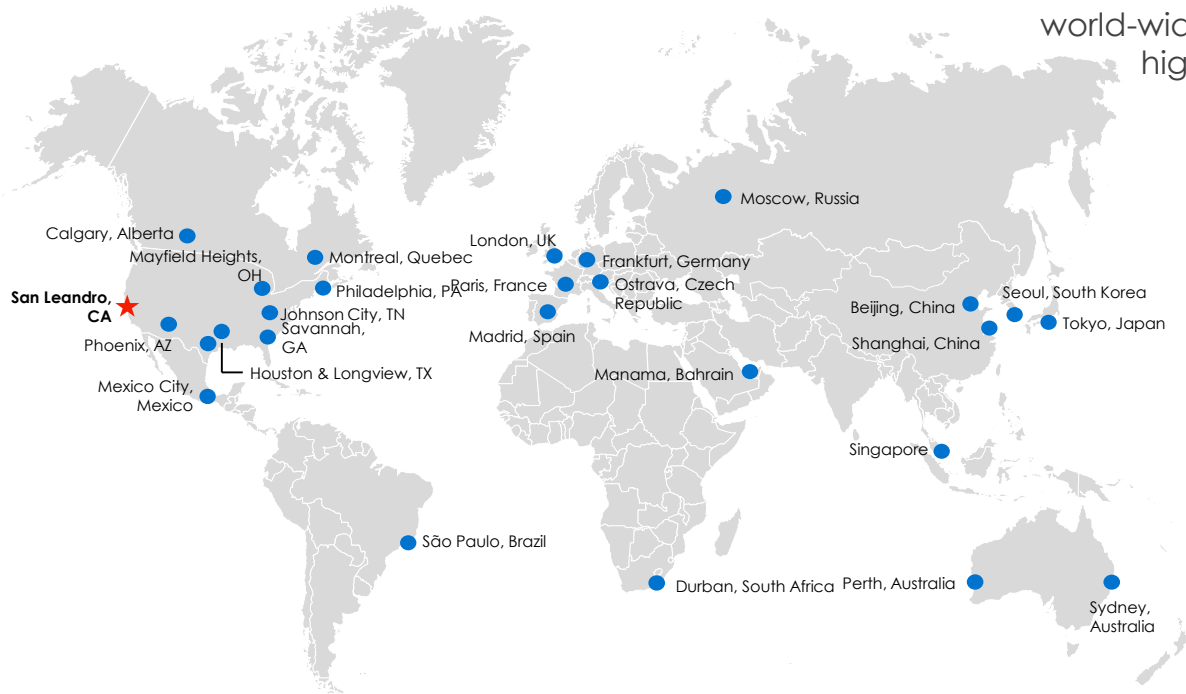
Support is **available**

24 hours
a day **7** days a
week

world-wide from dedicated and
highly trained employees.

from offices in
16 countries

and in
12 supported
languages



Bookmark These Pages

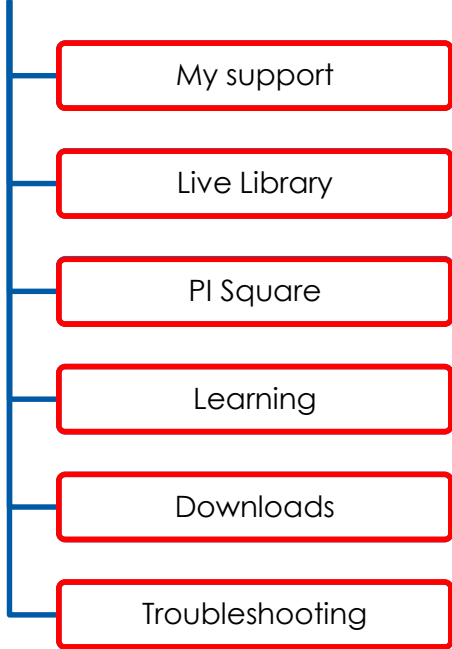


The screenshot shows the OSisoft website homepage. The navigation menu includes "Home", "PI System", "Solutions", "Support", "Partners", and "About OSisoft". The "Support" menu item is circled in red. A red arrow points from this menu item to the "My Support" section of the tech support page. The main content area features a "Transform your World" banner, a "Support Overview" section with sub-sections like "Support Services", "Value of Enterprise-wide Deployment", and "Customer Support Testimonials", and a "Support Resources" section with sub-sections like "PI Square Community", "PI Developers Club", "Online Documentation", "Knowledge Base", and "Tech Support". A statistics bar at the bottom shows: 35+ years as a leader, 125+ countries installed in, 19,000+ sites deployed, 1.5B+ licensed sensor-based data streams, and 65% of the Industrial Fortune 500 use us.

The screenshot shows the OSisoft Tech Support page. The navigation menu includes "OSisoft Home", "Worldwide Locations", "PI Square Community", and "Learning". The "My Support" section is highlighted in blue. The "My Support" section contains a "Things to Do" list: "Generate a License File", "Open a Support Case", "Download Software", and "Update My Profile". The "Resources" section contains: "PI System Roadmap", "PI Square Community", "Knowledge Base", "Learning Videos", "Live Library", and "Security and System Management". The "Downloads" section contains: "My Downloads", "All Downloads", and "My Download History". The "Products" section contains: "PI Server", "Visualization", "Interfaces and Connectors", "Integrators", "PI Cloud Connect", and "Developer Technologies". The "Product Alerts" section contains: "2016-01-15 PI Coresight & Microsoft Patch Compatibility" and "2015-11-10". The "Product Releases" section contains: "2016-01-21 Asset Based PI Example Kit for Utilities Cost Management is released".

Tech Support Website

Tech Support



OSISOFT Home Worldwide Locations PI Square Community Learning

OSISOFT Tech Support

Search a keyword... Search

My Support	Contact Us	Resources	Downloads	Products
Things to Do <ul style="list-style-type: none">Generate a License FileOpen a Support CaseDownload SoftwareUpdate My Profile		<ul style="list-style-type: none">PI System RoadmapPI Square CommunityKnowledge BaseLearning VideosLive LibrarySecurity and System Management	<ul style="list-style-type: none">TroubleshootingMy Download History	<ul style="list-style-type: none">DownloadsInterfaces and ConnectorsIntegratorsPI Cloud ConnectDeveloper Technologies

OSISOFT. USERS CONFERENCE 2016
April 4-8, 2016 | San Francisco

Product Alerts
2016-01-15
PI Coresight & Microsoft Patch Compatibility
2015-11-10

Product Releases
2016-01-21
Asset Based PI Example Kit for Utilities Cost Management is released

What information does Tech Support need?



1. A clear description of the issue
2. Product and version information
3. Relevant information (e.g. logs, steps to reproduce issue, OS version)
4. Urgency and Impact
5. PI Server Serial #: **Customer Server Number**

Register to Tech Support

This is your OSIsoft single sign-on (SSO) account. Use it for all OSIsoft websites including Technical Support, Learning, and PI Square.



- Reminder: Fill the registration form using your business email address!

Adding your Site

Enter a keyword...

Search

My Support

Contact Us

Resources

Downloads

Products

My Profile



View and edit
your profile and
email address

My Downloads



Download
your software, release
notes and user manuals

My

My Products

Don't see your site? [Add Site](#)

No results found.



View a
existing site
or create a new case

review other software licenses

Support Resources

- [Search Knowledge Base](#)
Troubleshoot and maintain your PI system.
- [Watch Learning Videos](#)
Learn what you need to use the PI System right now.

Questions?

-  [Contact 24 Hour Telephone Support](#)
-  [Email our Support Team](#)

What's my site name and PI Server Serial #?

Find this in an email from OSIsoft stating that your EDU software order has been processed. Or, find it stored on your PI System following [this video](#).

Site Name	<input type="text"/>
PI Server Serial #	<input type="text"/>
Phone Number	<input type="text"/>
	Ext <input type="text"/>

- Site Name: **Customer Site Name**
- PI Server Serial #: **Customer Server Number**

Downloads

[OSIsoft Home](#) [Worldwide Locations](#) [PI Square Community](#) [Learning](#)

[Twitter](#) [RSS](#) [Welcome, Guest](#) [Sign In](#)



[My Support](#)

[Contact Us](#)

[Resources](#)

[Downloads](#)

[Products](#)

My Profile



View and edit your profile and email address

My Downloads



Download your software, release notes and user manuals

My Cases



View and update existing support cases, or create a new case

My Products



Access your PI Server Licenses and review other software licenses

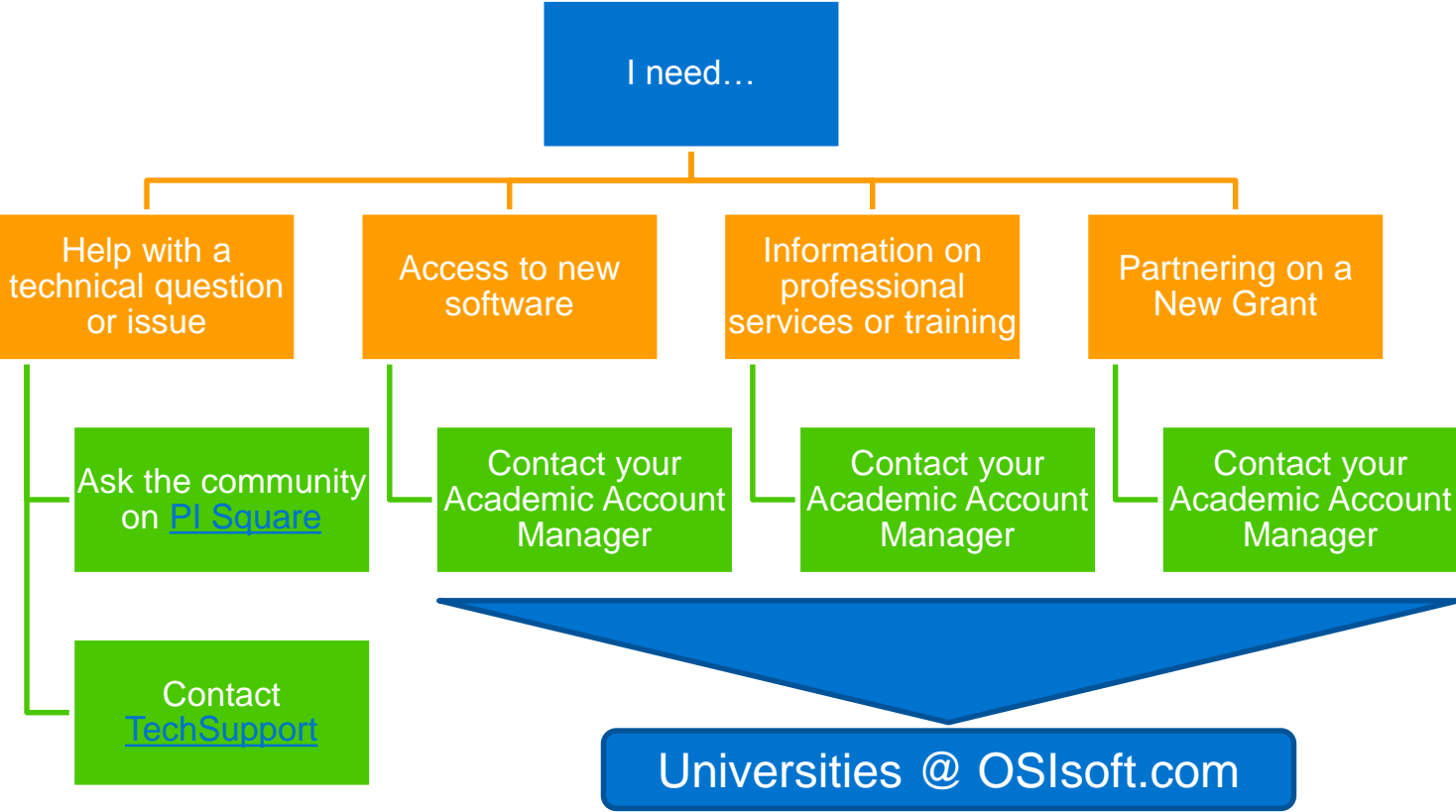
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- [Email our Support Team](#)

Who should you contact?



Contact Information

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OSIsoft, LLC



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Questions

Please wait for the **microphone** before asking your questions



State your **name & company**

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감사합니다

谢谢

Danke

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado