

# Juwi

## Improving Asset Monitoring With Data Integration Saves \$2.6 Million



Founded in Wörrstadt, Germany, in 1996, Juwi designs and manages renewable energy projects from inception to implementation and offers post-implementation asset monitoring services. Today, the company manages approximately 2,300 systems worldwide. As Juwi's portfolio of assets grew, so did the complexities of integrating and managing them. With the number of individual software applications needed to manage its assets growing and new asset integration becoming more difficult, Juwi decided to simplify operations by implementing the PI System from OSIsoft as its unified monitoring solution.

**“The PI System is the base of our operations so it is very important. It's the underlying structure. It's like a big building – you take away the foundation and you wouldn't like to know what happens to the building.”**

– Dr. Thomas Weiss, Manager Control Room Operations, Juwi



### Situation

Juwi was founded in 1996 as a two-man company to build a wind turbine. Today, Juwi's employees over 1,000 people and manages wind and solar assets globally from inception to operation. “We offer the whole portfolio,” says Dr. Thomas Weiss, Manager Control Room Operations at Juwi. “We look for a piece of land, get the necessary permissions, get the building contracts, complete whatever paperwork is necessary – when everything is together

(even the money) we offer the project to somebody. Our clients are very diverse it can be a community who wants to change its way of getting energy, an individual, or an insurance company, a fund, or a bank. We develop the idea from scratch to operation.”

The renewables sector is still a young industry and standardization is limited. Typically, each turbine manufacturer provides software for monitoring its assets. However this software does not integrate across assets from different vendors. As Juwi's portfolio of assets grew, it became increasingly difficult to integrate and monitor assets and standardize reports. “Just in the control room we had 24 pieces of software.” says Dr. Weiss. “There was no way to make one report from two different IT systems end up in one decent report. We were the masters of Excel sheets but it always ended in a mess because the figures were not always the same. For the same problem we had several different answers.”

In 2012, Juwi began looking for a software vendor who could provide an integrated software solution for monitoring all of its renewable assets. It was especially important that Juwi locate an off-the-shelf solution as a team of five individuals, working part-time around other responsibilities, would be responsible for implementing and managing the new system.

### Solution

In late 2012, Juwi selected the PI System from OSIsoft as its data integration solution. “We felt that OSIsoft was industry proof, that is was a solid technology, that OSIsoft was big enough to survive difficult times, and we were quiet certain that regardless what the future may bring there will be an interface for it from OSIsoft.”

To simplify ongoing management and maintenance as well as standardize its calculations, Juwi extensively leveraged PI Asset Framework™ (PI AF) templates. “With the structures we have now, in a few hours a park can be connect-

ed to the PI System – the tags are set, the calculations are done, and usually the next morning the boss has the report on his table with the new parks in it. Before that would take us weeks.”

## Benefits

The PI System has made it easier for Juwi to integrate new assets and shifted the way Juwi works with its data and monitors its assets. “Before we were happy at the end of the day if we could get the data from all sites in our box and all the turbines were running – it didn’t really matter how well they were running. Now the data is coming automatically and we’re starting to drill down into why are things not running well, going into a predictive view of things, and it makes things easier,” says Dr. Weiss.

Better data and better monitoring tools has changed Juwi’s relationship with the its equipment manufacturers. “Most of our assets have double supervision, we supervise and the manufacturer does also. Usually they always knew things before we did and this has changed. **Now we call them and say ‘Your turbine is not running’ they ask us ‘Since when?’ We say ‘Since 3 minutes ago’ and they say ‘How do you know?’ ‘Our system told us;’**” says Dr. Weiss.

It’s also changing Juwi’s relationship with regulators. Germany has very strict rules concerning the protection of animals especially bats and birds. These regulations cre-

ate complex rules regulations for when and in what conditions operators can run wind turbines and the operators have to show the government that they are abiding by those regulations. With the PI System in place, Juwi has not only been able to show the regulators that it’s complying with the regulations, it has been able to find ways to better meet the requirements. Juwi was able to negotiate with regulators to change some operating rules. “By being able to deliver a constant database it’s much easier to argue with officials shouldn’t we do things different. It’s easier to get agreement between us and the regulators,” says Dr. Weiss. “And we can show our customers that we aren’t overdoing it.”

These changing dynamics have yielded tangible benefits for both Juwi and its customers. “Since we started implementing the project we’ve had an overall increase of efficiency of 1%. If you put that into money, it’s 2.6 million euros in additional net income for our customers.” says Dr. Weiss. It’s also changed Juwi’s approach to its data. “In our company there was a strange feeling that there was no way we could handle that mass of data and this has changed. Now we are quiet certain that not only can we handle it but also we can drill down and benefit from it. The mindset has changed from being overwhelmed to having a good tool to drill down.”

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## Business Challenge

- Asset monitoring complex and difficult due to integration issues across vendors. Control room operators had to work with 24 different pieces of software.
- Juwi’s custom software solution meet its basic needs but was difficult to maintain.

## Solution

- The PI System was installed in 2012 as a single information system for monitoring all renewable assets.
- PI Asset Framework templates were used to standardize assets and calculations and speed up new integration of new parks.
- A team of 5 people manages the PI System part time.

## Customer Results

- 1% increase in efficiency has saved approximately 2.6 million euros.
- It now takes a few hours to integrate a new park for asset monitoring when it used to take months.
- Improved real-time performance monitoring.
- Improved communication with regulators and equipment manufacturers.