Technical Assurance:
Delivering the ON-PNT Solution

An Infowise Solutions Case Study

Technical Assurance has over two hundred years in combined experience to help their customers maximize the value and lifespan of the facilities' envelope systems.

Executive Summary

Technical Assurance, Inc. has tremendous experience and a proven track record when it comes to facility and building envelope systems (systems external to the building) with a rich history in construction, materials, maintenance, and maximizing the ROI of any major structural capital assets. Technical Assurance has been in business for nearly 20 years and has been advising universities, government agencies, and large corporations on how to maximize their investment in their facilities with great success.
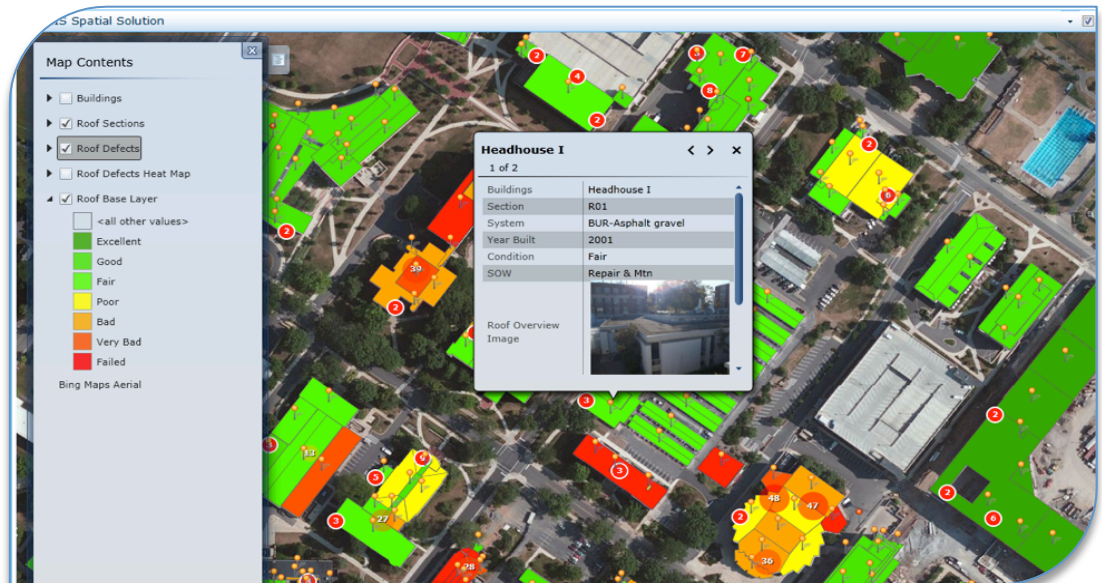
Recently, Technical Assurance has recognized an opportunity to help their customers better manage their capital assets via improved maintenance that is driven by analysis, repair vs. replace costs, industry best practices and more with software that would enable much greater proactive maintenance in partnership with Technical Assurance's consulting services.

Yet recognizing that their strengths was in facility and building envelope systems, Technical Assurance did not want to spend years developing software based on a proprietary platform that would take a long time to bring to market and require a great deal of investment.

Technical Assurance chose Microsoft SharePoint as their delivery platform as it had many of the attributes their software system needed to ultimately deliver and was already in wide adoption by their target market. However, Technical Assurance found that SharePoint was lacking in some key functionality that prevented them from delivering a delightful and fully functional experience to their users, such as relational database functionality, rich and easy to use list components, and color encoding mechanisms to draw visual focus to areas needing attention.

Technical Assurance contacted Infowise Solutions to describe their needs and worked together to use Ultimate Forms to add the necessary functionality to SharePoint so that Technical Assurance could deliver the ON-PNT based on SharePoint successfully to their customers while exceeding their time-to-market and investment goals.

Today, Technical Assurance is offering a complete asset management service delivery solution that leverages ON-PNT to coordinate their internal business processes with their external service delivery to their customers which has given them a competitive advantage in the marketing place and helps them to close business with greater velocity.

Infowise Solutions delivers components to improve the functionality and usability of Microsoft SharePoint, helping companies like Technical Assurance deliver ON-PNT.

The Challenge

Educational institutions, government agencies, large corporations and other organizations with large campuses and heavy investments in their buildings and facilities know that maintaining their envelope systems is a major portion of their facilities budget and that being proactive in the maintenance can dramatically extend their investments' lifespan.

Large campuses have a tremendous number of facilities systems that need to be maintained and it is important to properly track their current state of repair, age, maintenance activities, initial cost, current value, expected lifespan, replacement costs, and other metrics to make informed decisions on maintenance activities. With all of these metrics and systems, paper systems are systems are neither practical nor reliable and other software solutions are very expensive, difficult-to-use and often very rigid and not able to meet the customers requirements.

Technical Assurance worked with their clients to develop a product plan to create a comprehensive software offering to track all of these different metrics across the many different envelope systems, such as roofs, walls, hardscape, parking lots, etc. Their solution needed to provide:

- Easy to Use for End Users
- Easy to Administer
- Extensible
- Highly Visual to Draw Focus to Areas of Attention, Including Exception Management
- Easy Access to Contextual Information
- Leveraged GIS Data and Mapping

With the above goals in mind, Technical Assurance began scoping the work to develop the software solution with both off-the-shelf platforms and custom development. As expected, custom development could deliver on the some of the above objectives, but would likely lack the flexibility of a robust and mature software platform as well as require a tremendous amount of investment and time to deliver the solution that could result in missed opportunities and an uncompetitive cost structure. Furthermore, a proprietary solution would likely lack the ease-of-administration and extensibility required by the customers.

Conversely, the off-the-shelf software platforms were able to help Technical Assurance develop much of the basic functionality required, but lacked the ease of use, visual cues, contextual information and the integrated

> "Ultimate Forms gave us the competitive edge to deliver to our customers powerful SharePoint-based applications to solve their business critical needs and helped us achieve a competitive advantage."
>
> *- Ed Taylor*
> *CEO, Technical Assurance*

GIS functionality. Yet, as Technical Assurance continued their due diligence on this approach, they found that Microsoft SharePoint came closest to delivering all of the necessary platform elements to deliver their solution.

Not wanting to compromise on the end-product, Technical Assurance began to investigate ways to close the gap.

The Solution

Technical Assurance spent 4 months evaluating vendors to augment the Microsoft SharePoint platform to bridge the gaps between what SharePoint offered and what was required in the final solution.

Technical Assurance knew from previous experience that ESRI had a best-in-class GIS solution and that their ArcGIS product had SharePoint integration, but there were still a lot of gaps to be filled that SharePoint alone could not resolve. Specifically, Technical Assurance needed to deliver on:

- Contextual information
- Graphical reporting
- Creating an easy-to-use solution
- Data Acquisition from Mobile Clients
- Data and Workflow Automation

Technical Assurance selected Infowise Solutions as their go-to-market solution provider and worked with them to identify which of the Ultimate Forms components from Infowise would best meet the needs of Technical Assurance.
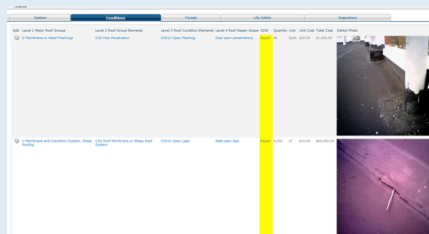
Ultimate Forms Component Review

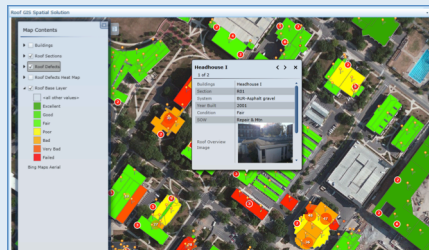| Infowise Solutions Component	Solution Description
Smart Action Pro	Defines and executes multiple actions of 14 different types, ranging from updating list items or external databases to creating sites and managing permissions. Actions are executed in response to user input or based on a timer. Smart Action Pro provides automation and workflow for ON-PNT that delivers calculations to determine an asset's useful life, executes life cycle analysis, generates work scheduling requirements, calculates cost estimates, automatically updates condition states, and more.
Smart List Pro	Adds tabs, field permissions, validation, mobile views, wizard data entry, and more to your SharePoint forms improving both the usability and quality of data entry. ON-PNT uses this component extensively to ensure that entered data is accurate and can control workflow based on permissions and specific values of a field.
Smart Alert Pro	Replaces the standard SharePoint notification functionality and allows for the definition of conditions and email templates to create more relevant and impactful notifications. ON-PNT leverages Smart Alert Pro to notify consultants and engineers of conditions requiring quality control checks at a facility. Alert includes geocoded information so that consultant can quickly navigate to specific facility in ArcGIS.
Associated Item	Allows users to view contextual information by creating relationships between different data sets. In ON-PNT, it allows users to view condition states or problems associated with a selected asset.
Smart Import Pro	Imports data from a separate SQLServer hosting geodata with the ESRI ArcGIS server into SharePoint so that data is available to users in ON-PNT and available to drive workflows and for value added contextual data.

Infowise Solutions Component	Solution Description
Connected Fields	Allows for cascading pull-down lists that allow subsequent pull-down lists to automatically be filtered based on the selection of a previous pull-down list. For example, allows user to select Roof Condition Elements based on the value of Roof Group Elements pull-down list.
Indicator	Provides visual indications directly in the list to provide visual cues to help user focus on the data that requires the most immediate attention.

The Result

Technical Assurance's customers, including Penn State University, have implemented ON-PNT to manage their facilities envelope systems and have been enthusiastic at the increased collaboration with Technical Assurance consultants and the more efficient and effective management of their facility envelope systems.

The combination of Microsoft SharePoint and Infowise have created a rich and powerful platform for Technical Assurance to deliver their years of deep domain experience through their market leading ON-PNT in conjunction with their consulting services, giving Technical Assurance a distinct competitive advantage in the marketplace.

Specifically, the three elements of the ON-PNT solution provide:

SharePoint	Robust, flexible, industry-proven platform that integrates well into most IT organizations and is readily accepted by IT organizations. Furthermore, SharePoint is extensible and easily customizable which gives organizations adoption ON-PNT to also customer their solution without requiring lengthy, rigid, and expensive customization projects required by most proprietary platforms.
Infowise Solutions	Ultimate Forms delivers components that augment the workflow, visualization, functionality, and usability of SharePoint that allow this collaboration platform to delivery high-end applications that result in delightful user experiences not possible with SharePoint alone.
ESRI	GIS solutions that are used by all levels of government, industrial, and commercial customers that delivers high quality data and strong GIS visualization inside of SharePoint and integrates with Ultimate Forms to surface GIS data.

Technical Assurance was able to deliver on their product vision to the marketplace on time and on budget by using Microsoft SharePoint, Infowise Solutions Ultimate Forms, and ESRI ArcGIS. But more importantly, the finished ON-PNT delivered the functionality, agility and value for the end-user that allowed them to better manage their assets and get the most from their capital investments.

The Benefits

Technical Assurance began their ON-PNT project with a clear vision in mind to help customers with large campuses dramatically improve the maintenance and subsequently extend the lifespan of their facility envelope systems by delivering a comprehensive software solution that draws on Technical Assurance's domain expertise and industry best practices. With Microsoft SharePoint, ESRI ArcGIS, and Infowise Solutions Ultimate Forms, Technical Assurance was able to deliver ON-PNT with the following benefits to the end customer:

- Deliver great user experience that is easy-to-use and allows for quick adoption
- Extensible platform adjusts easily to meet the unique need of end customers without the need for expensive custom development
- SharePoint is an IT standard and is readily accepted by IT organizations

> *"With the ON-PNT solution, every roof section has also been evaluated and scored, and we are now making strategic financial decisions on restoration and repair that will ultimately lead to longer lifecycles."*
>
> *John A. Mason*
> *Supervisor, Planning and Estimating*
> *Penn State University, University Park, PA*

But there are a number of benefits to Technical Assurance also:

- ON-PNT gives Technical Assurance clear advantage over competing software solutions in terms of functionality, ease-of-use, and extensibility
- Low development costs enables Technical Assurance to be very cost competitive and profitable
- Competitive in each of the RFPs they respond to and win often, even against much larger competitors
- Technical Assurance was able to focus on functionality associated with their domain expertise and not on proprietary software development

The Conclusion

By leveraging the enterprise infrastructure and platform of Microsoft SharePoint with Infowise Solutions' Ultimate Forms, Technical Assurance was able to deliver ON-PNT, a market leading agile and collaborative facilities envelope management system to dramatically improve the lifespan of facility assets by providing a complete solution, from assessment to management to sustainability. With Infowise Solutions, Technical Assurance was able to provide a market leading workflow, visualization, and easy-to-use experience to their customers simply not possible with SharePoint alone and made this complete solution efficient and effective.

But most importantly, Infowise was able to deliver a delightful user experience that addresses key business problems that drives tangible benefits for the end-user by extending the expected lifespan of their facilities through greater proactive maintenance based on data analysis, industry best benchmarks, and improved coordination between the Technical Assurance consultants and engineers and the facilities owners.

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