

EASA

CASE STUDY

“EASA has defined itself as the perfect complement to Excel; no longer shall the computational power of Excel be marooned on a desktop, available only to expert users.”

- Vincent Page

Technical Solutions Manager

FOR MORE INFORMATION, CONTACT US:

 800.711.5346

 info@easasoftware.com

 www.easasoftware.com

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Creating Intuitive Software to Enhance Physical Product Offerings, thus Meeting Global Environmental Standards

Company Name
Hyde Marine

Industry
Marine



If you ask any Tesla owner what their favorite features are, most will mention over-the-air updates. The hardware (the physical car) gets better with time as the software improves the customer's experience. Hyde Marine has applied this principle to their physical products by using EASA to create highly intuitive, fit-for-purpose apps that enhance their customers' experience.

BACKGROUND

Hyde Marine's GUARDIAN® line of products are installed on cruise ships, container ships, and naval vessels around the world. These systems purify ballast water before it is returned to the ocean, ensuring ecosystems are not damaged by biological pollution and the spread of invasive species. Hyde Marine therefore enables customers to meet the stringent requirements of the 2004 IMO Ballast Water Convention.

The GUARDIAN product line employs filtration and ultraviolet irradiation to treat and sterilize ballast water. The parameters of the system, including historical pressures and temperatures at various locations, valve positions, as well as system errors, are all documented in data logs which, in raw format, are not human-readable.

THE PROBLEM

As more customers asked for access to these logs, it became necessary to create a process enabling the “translation” into human-readable reports. By using MS Excel and creating extensive macros, Hyde Marine was able to automate this complex task of calculation and data processing as much as possible.

However, while the resulting Excel-based process was fine for internal specialists to use, it was by no means suitable for deployment to maintenance staff on vessels at sea. To translate the data into actionable knowledge remained an “expert only” process, requiring hours of an expert’s time to generate a professional report.

Hyde Marine considered building a custom standalone program or a web-based app to replace Excel but concluded that no hard-coded app would be as adaptable, flexible, and maintainable as Excel and VBA. Meeting the ever-changing reporting and compliance needs of their customers made it effectively impossible to move away from Excel.

THE SOLUTION

So instead, Hyde Marine looked for a solution to make Excel more enterprise-friendly and identified EASA’s patented technology as a perfect fit. EASA enables any Excel spreadsheet, complete with macros and VBA, to be retained as a “logic engine” for a custom web app built with EASA’s low-code platform. This approach completely eliminates what could be a prohibitively expensive effort to recreate the logic that already exists in Excel.

Now, Hyde Marine has successfully used EASA to build and deploy a custom web app to end-users, enabling crews to generate their own reports on demand while at sea. The app is deceptively simple; it masks a highly complex sequence of tasks executed via macros in the master spreadsheet. The app automatically generates multiple outputs, including a professional 3-page report.

Because the original spreadsheet can be used, the effort to build the app was estimated to be as low as 10% of the effort that would have been required to build a custom application from scratch. Furthermore, updates to the app can be made simply by updating the spreadsheet.

It is fully expected that the app will aid the decision-making process for crews and will help technical officers implement preventative maintenance programs for the vessels they oversee.

“In my mind, Excel is perhaps one of the most under-utilized software products out there. When macros and application-specific VBA algorithms are leveraged, Excel offers a remarkably powerful resource for refinement, enrichment, and analysis of our field-data, all in an automated manner. By offering a path for these analytical solutions to be accessible to our customers via the web, EASA has defined itself as the perfect complement to Excel; no longer shall computational power be marooned on a desktop, available only to expert users. EASA’s technology has further enhanced the customer value of the Hyde GUARDIAN® Ballast Water Treatment and we look forward to continued successful collaboration with EASA and their great team”.

Vincent Page,
Technical Solutions Manager



AFTER EASA

The screenshot shows the XCDLAU web application interface. At the top, there is a header with the XCDLAU logo. Below the header, there is a form for submitting data. The form includes fields for 'Submitter: Vincent Page' and 'Email: vpage@calgoncarbon.com'. There is also an 'Optional Recipient Email:' field. The main part of the form consists of seven steps, each with an 'Upload' button and a status indicator. Step 1: Select and Upload Alarms File (Alarms File (.csv) | Choose File | No file chosen | Uploaded File: Alarms0.csv). Step 2: Select and Upload Notifications File (Notifications File (.csv) | Choose File | No file chosen | Uploaded File: Notifications0.csv). Step 3: Select and Upload Process Values File (Process Values File (.csv) | Choose File | No file chosen | Uploaded File: Process Values0.csv). Step 4: Select and Upload Configuration Settings File (Configuration Settings File (.csv) | Choose File | No file chosen | Uploaded File: Configuration Settings0.csv). Step 5: Select and Upload System Settings File (Service Settings File (.csv) | Choose File | No file chosen | Uploaded File: Service Settings0.csv). Step 6: Provide GUARDIAN BWTS Project Number (Required) and Vessel Name/Identifier (Optional) (Project Number: UHO.150168 | Vessel Name: HMS Minnow). Step 7: Run Data Processing (Submit Data | Help).

The new web-based GUARDIAN application, created with EASA’s codeless application builder, is far easier to deploy and use. It leverages the existing spreadsheet and the business intelligence already embedded in it, eliminates usage errors, and ensures version control



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