Tech Brief 01-06-007

Documenting As-Built Power Plant

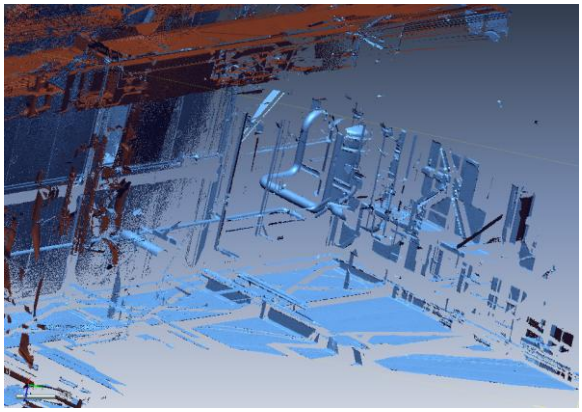

Figure 1 – Raw Scanned Data

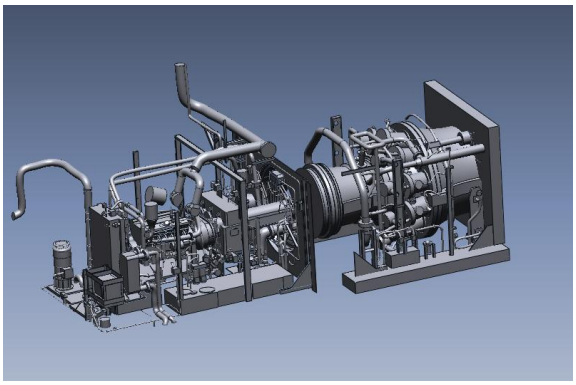

Figure 2 – High Detail Modeling

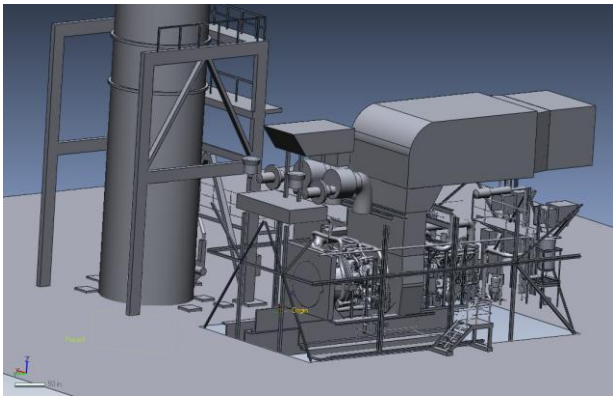

Figure 3 – Global Alignment

Problem:

A power plant was due for updates and modifications. Accurate 3D CAD models of the "AS-BUILT" condition were required to design upgrades.

Traditional Method:

Technicians must measure all components with hand tools and tape measures, and then manually enter data into CAD. Virtually impossible to model every wire and hose accurately.

NeoMetrix Solution:

- Large components were scanned on site using a Leica long range laser scanner.
- Scan Data is registered, merged, and aligned in Rapidform XOR. (Figure 1)
- Each and every tube, wire, and fuel line was modeled. (Figure 2)
- Model is aligned to the customer specified coordinates to meet existing refit models. (Figure 3)

NeoMetrix Advantage:

- Less labor intensive, quicker turnaround time, and a much greater degree of accuracy than traditional methods
- 3D model available for design changes, checking clearances, and refit space claim

NeoMetrix Technologies, Inc
4044 W. Lake Mary Blvd. 104-203
Lake Mary, FL 32746

407-268-9110 phone
407-386-7797 fax

info@neometrixtech.com
www.neometrixtech.com

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Scanning (Figure 4)

The scanner is positioned to take multiple scans from various positions (Figure 4)

Outside of the large tower (Figure 5)

Tower (Figure 5)

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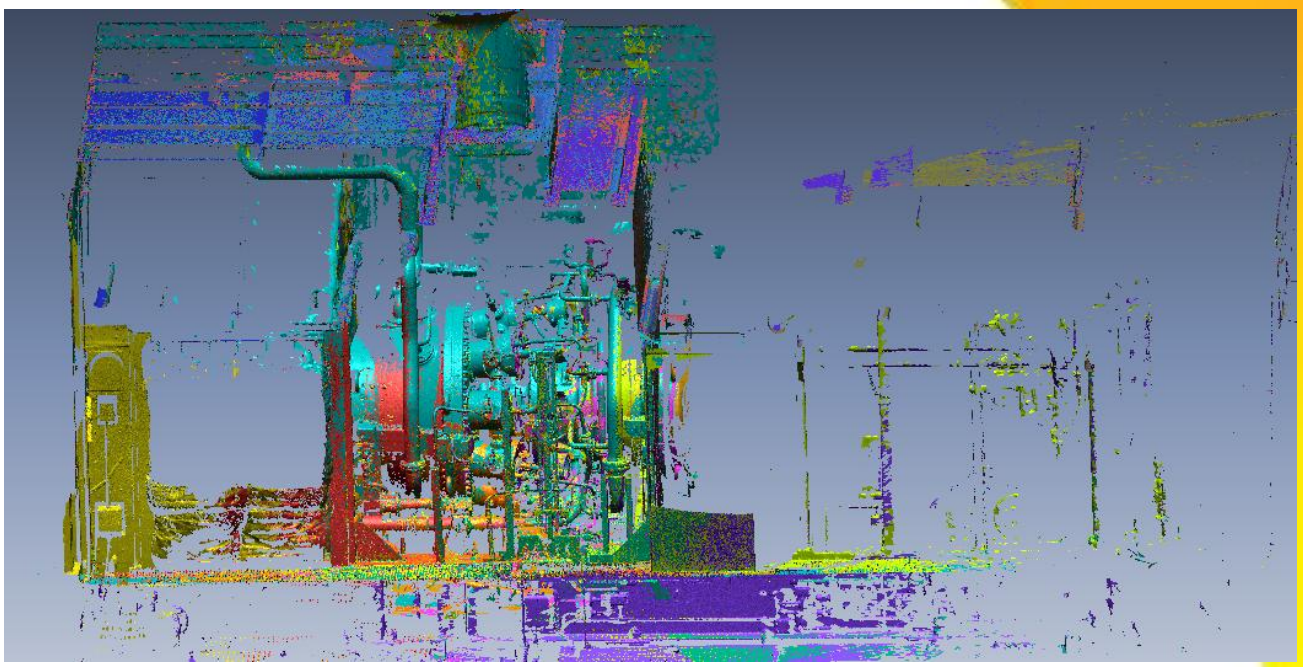
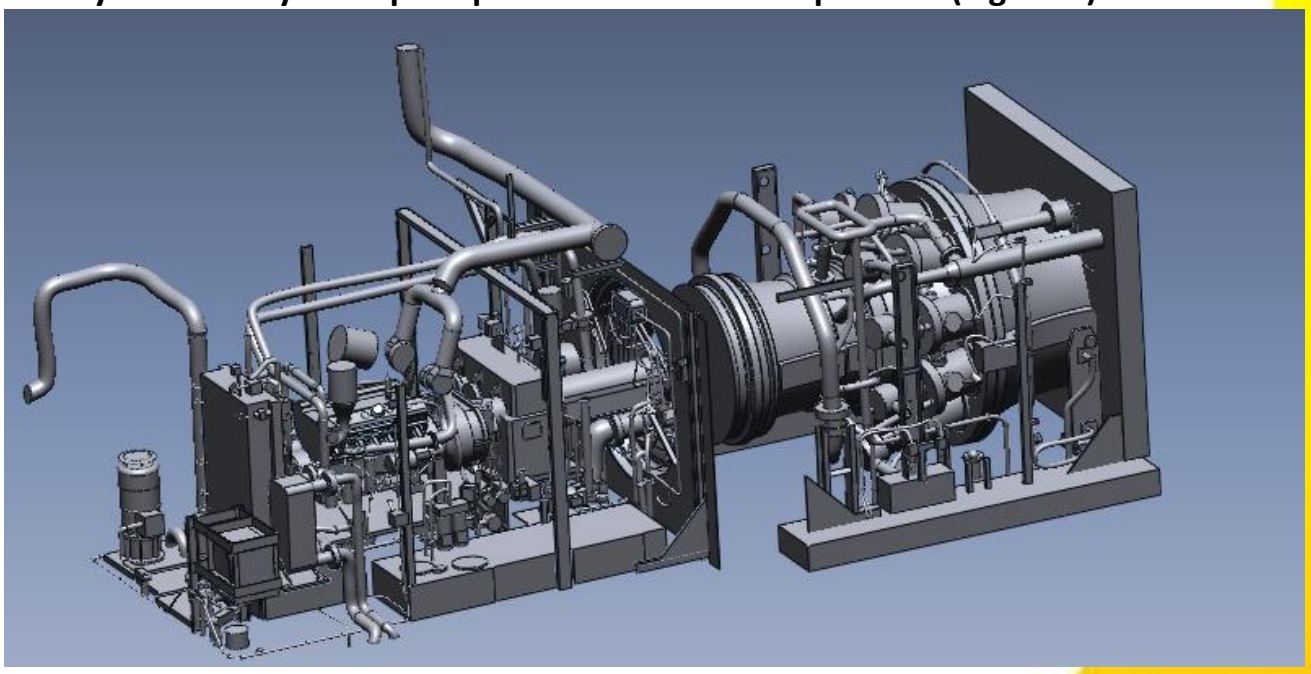


Raw Scan Data (Figure 6)

After scanning the data is aligned in the correct position to gather enough information to create an accurate model.(Figure 6)

Each pipe/wire/tube/fuel line were all modeled so the engineers would know exactly where they had open space to add re-fit components.(Figure 7)



Starter Room and Turbine (Figure 7)

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