GSC ENGINEERING, INC. ™

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GSC has three practice divisions:
- Biotechnology & Pharmaceutical
- Construction, Manufacturing, & Facilities Engineering
- Scientific / Engineering Computation & Automation

About **GSC**'s founder and principal:

Thomas J. Vaughan Jr., P.E.

GSC was founded by Thomas Vaughan after an extensive career with major high-technology organizations. This career included: Design of industrial buildings and nuclear power plants. Transportation planning with the Federal Government. Design of industrial equipment, computer systems, medical imaging systems, and software products.

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GSC ™
ENGINEERING, INC.

INTERDISCIPLINARY TROUBLESHOOTING

*Solving the problems
that fall into the cracks
between disciplines,
since 1982*

"Solving the problems that fall into the cracks between disciplines"

The Problem with Products or Projects involving Multiple Disciplines.

Many problems fall into the cracks between disciplines. In scientific terms this is a kind of 'boundary condition' problem.

Most disciplines handle the middle of their fields well. It is like a curve fit that works well in the middle of the data but not as well near the extremes.

This is NOT SUGGESTING ANY LACK OF SKILL IN THE DISCIPLINE SPECIFIC EXPERTS. Often, the more capable the expert, the more focused he or she is in optimizing their discipline.

Optimizing one discipline can de-optimize another discipline.

Interdisciplinary design and troubleshooting is a specialty in its own right - like a physician who is a "diagnostician" and identifies obscure problems, or a pharmacologist specializing in drug interactions.

The interdisciplinary problem is the one usually missed during testing.

Interdisciplinary vs. Multidisciplinary

Many firms provide staff from multiple disciplines. Typically these specialists are focused on a single discipline.

Interdisciplinary specialists are focused on the "no man's land" between disciplines.

Troubleshooting vs. Forensic Investigation

Both use similar techniques, and GSC will conduct forensic investigations.

"Forensics" is focused on what went wrong, and who is responsible - usually to support claims or litigation - often leading to 'expert witness' testimony.

Note that if you anticipate actual litigation and testimony, the expert should normally be engaged by your attorney to establish "attorney-client privilege".

"Troubleshooting" is focused on designing and implementing a fix to the problem.

Interface Design vs. "Standards"

Interface design and integration engineering can be another type of interdisciplinary problem. An interface must perform useful work under operational conditions.

Interfaces can be 100% compliant with standards and partially or even totally fail to function. One classic was the famous phrase "RS-232 compatible". In practice >90% of these were custom interfaces, the RS-232 compatibility just meant there were no flames and smoke when they were connected.

Today's proliferation of standards, and the assumption that devices can be treated as 'black boxes', introduces new interdisciplinary interface issues.

How GSC can help you

GSC brings years of experience coming at these problems from different directions.

Your existing staff may not have time available for the detailed investigations needed.

If it is not working right, GSC can help.

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GSC ENGINEERING, INC.™

Projects from one-day consultation to multi-year development.

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