A technology which helps industry...

- Prevent power outages
- Restore power quicker

... in a very unique way
Power disruptions are up 50% (in last five years)

In many instances, Substation engineers lack the needed data to prevent disturbances
PROBLEM

Installing monitoring equipment is a difficult process

Requiring:
- New engineering drawings
- Substation shutdowns
- Removal of existing wiring
- Equipment removal
- Panel disassembly
- Panel modification/machining
- Panel reinstallation
- Equipment installation
- Routing of new wiring
- Point-to-point testing
- Technician training
- Substation power-up

Typically taking months to complete

At significant cost and risk
Simplified approach

reducing months to minutes
Sensors which require *no* wiring

Non-intrusive installations
## Installation Requirements

<table>
<thead>
<tr>
<th></th>
<th>Traditional Solution</th>
<th>FischerBlock, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fully-wired</td>
<td>SMART Cover™</td>
</tr>
<tr>
<td>New Engineering drawings</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Panel shutdowns</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Panel cutouts</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Panel rewiring</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Station power</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Installation time</td>
<td>Months</td>
<td>Minutes</td>
</tr>
<tr>
<td>Installation cost</td>
<td>&gt; $300,000</td>
<td>&lt; $500</td>
</tr>
</tbody>
</table>
SMART Cover™

- Simple Test Switch cover replacement
- Compatible with all existing test switches in the field (10+ million).
- Allows for wide-scale deployment of advanced sensors

Patent pending SMART Cover™ technology
SMART Cover™

- Monitoring, recording, and streaming data, reporting the health of the grid and its critical assets:
  - Voltage
  - Current
  - Harmonics
  - Power
  - Frequency
  - Waveforms
  - RMS
  - Synchrophasors
  - SOEs
  - Energy
  - ROCOF
  - Fault records
  - Dynamic disturbance records
  - Power Factor
  - Load analysis

8kHz sampling
INDUSTRY ACCEPTANCE

“We have strong interest in your technology...”

“Fischer Block’s SMART technology enhance grid planning and operations”

“Your SMART technology will have wide industry acceptance”

“We need to be doing more with leading edge technologies”

“We have 200 substations that these could drop right into”

“The Fischer Block technology overcomes a number of challenges we currently have to deal with”
Substation diagram

— Substation control equipment is connected through Test Switches
Remote real-time access to critical data

- Continuous streaming
- Alarm triggering
Using clock offset annunciation technology
Remote synchrophasor capture

• Non-network solution
• GPS Transceiver technology
• Time stamped to w/in 100ns of UTC
COMMON HARDWARE PLATFORM FOR INDUSTRY

- Wide-scale implementation viability
- High-speed sampling of critical data
- Remote data access, time-stamped to UTC
- Enables industry to write, run, share custom apps