



HEXAGON 2012
THINK FORWARD

4-7 JUNE 2012
LAS VEGAS, NEVADA, USA



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THINK *FORWARD*

 **INTERGRAPH**[®]

INTERGRAPH @ HEXAGON 2012

Engineering & Schematic Technical User Forums

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Intergraph

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Improving

To improve is to change; to be perfect is to change often

Winston Churchill

Change $f(x)=x^\infty$ Improve

X = enhancement/TUF input

Speed

- Productivity is a component of the solution

Others are:

- Quality
- Flexibility
- Integration
- Openness
- Task based
- Industry focus
- Cost to deploy



- Lower cost of ownership
- Productivity
- Scalable
- Design/data quality
- Value add (be open to connect to complementary solutions)
- Clear value prop
- Fit for purpose (task focused like for EPC work (different tasks) as well as OO work (different tasks))

- Opportunities to change/improve
 - Breaking down silo's
 - Changing the playing field (differentiator)
 - Business drivers

- What not to do
 - Omit Clear/easy migration to the new solutions (move users forward)
 - Jeopardize the good capabilities

Focus on Engineering Data leave CAD behind



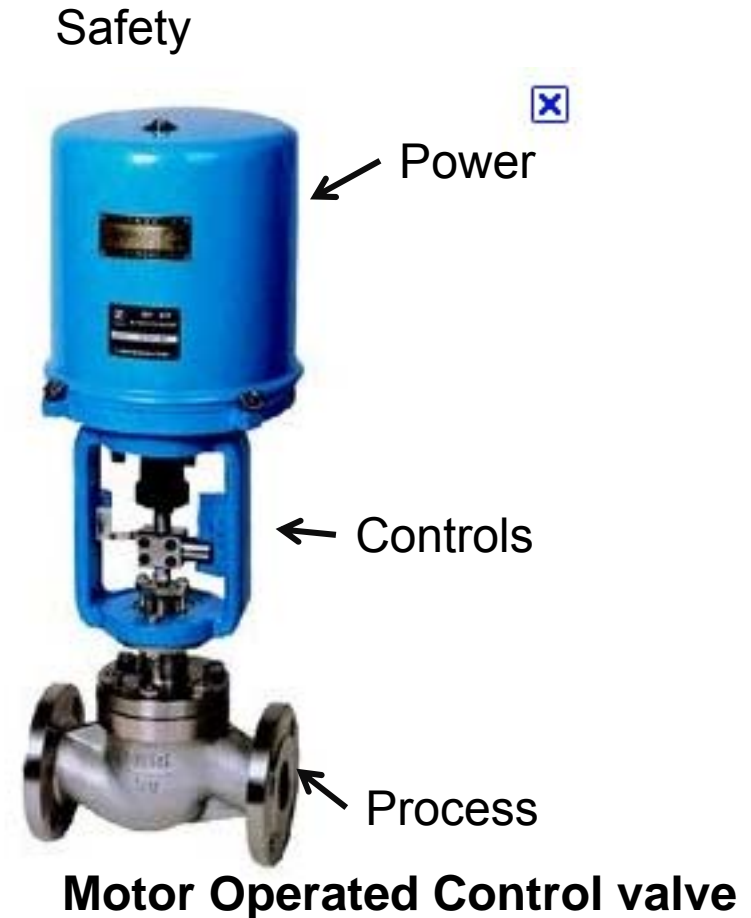
- Engineering for the traditional EPC segment
- Engineering Design Basis for Operations
- Leverage the data
 - SP P&ID Engineering
 - SP P&ID Engineering Integrity
 - SPI External Design Validation
 - SPEL Rules and interface with ETAP
 - SPPS HAZOP studies
 - More.....

- Expanding in the engineering usage
- Mid and low tier market (interface with Cadworx)
- Operational use (calibration, alarm management, PAS interface)
- Expanding product knowledge
 - SP P&D web based training (available + workshop at the conference)
 - Webinars
 - Local seminars
- Complementing with partners
 - Emerson, Honeywell, ABB, E+H, PAS, ETAP, Fluke, Yokogawa, and more

- Move common capabilities to one approach/GUI
- Improve usability
- Lower admin cost
- Focus on data quality (rules, validation etc.)
- Deliverables

Putting the Solution in Perspective

- Designing the Process
 - **SP P&ID**
- Safety and Risk Mitigation
 - **SP Process Safety**
- Controlling the Process
 - **SP Instrumentation**
- Powering the Process
 - **SP Electrical**
- Value add Engineering
 - **SmartSketch**
 - **SP Explorer**
- Validating the Design
 - **ETAP**
 - **E+H**
 - **More..**



Value Proposition – Reduce risk of design changes due to safety standards

Points of Parity

- 1 Create layout with process/electrical/instr
- 2 Assign area classification
- 3 Reporting on equipment

Points of Difference

- 1 Manage change
- 2 automate placement and connection
- 3 validate against P&ID

Resonating Benefits

- 1 Rules to identify conflicts during design
- 2 Maintain relationships between process area, equipment and classifications during design modifications

Base Project/Scope

500 P&IDs	700 electrical loads/panels/switches
2000 Equipment item	50 GA's
15000 instruments	

Users

Design Engineering	labor cost \$60/h	Checker	labor cost \$80/h
	labor cost \$100/h		

ROI key drivers: optimize equip cost \$2000k/reduce checking 2 cycle \$128k/avoid 3 late design changes \$181k = \$2309k

Costs:

Solution cost	\$ 600 k (maint \$ 120k)
Implementation cost	\$ 60k

Quantitative/Tangible Benefits:

Savings in first year	\$ 1529 k
Savings in following years/projects	\$ 2189 k

Qualitative/Intangible Benefits:

- 1 no late changes
- 2 better communication between the disciplines, elec/process/instr
3. Schedule impact

Solution composition:

10 S3D/4 SP P&ID
15 SPI/10 SPEL B-D

- TUF meetings today
 - We will share short and longer terms plans

- Many session most all by customers
 - Key notes (3)
 - Introduction session
 - Partners session
 - Workshops
 - Exhibition area

- Closing session
 - Different approach
 - TUF chairs
 - Open for interactions
 - Looking beyond engineering

TUF gift and recognition



- Today
 - Each TUF attendee will receive a golf shirt and TUF pin compliments of Intergraph
 - Visit the PP&M Info Desk (this floor) from 9 a.m. to 6 p.m. today to pick up your shirt
- Wednesday
 - Wear your shirt and pin to the Intergraph PP&M keynote (Wednesday 8 a.m., Grand Arena)
 - TUF attendees will be thanked and asked to stand during the keynote
 - If asked about the shirt, explain the value you receive from TUF participation
 - Those **wearing their TUF shirts and pin** may collect an additional gift in the TechPark on Wednesday at the times shown on the right



INTERGRAPH® PP&M
APPRECIATES OUR TUF MEMBERS!

Ask me how to
get TUF
Las Vegas
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Wear your pin and TUF shirt on  morning to be eligible to receive one more surprise gift! Visit our TUF check-in desk in the TechPark on Wednesday:

7:00 – 7:45 a.m.
9:00 – 10:00 a.m.
12:00 – 1:30 p.m.



SMARTPLANT	SMART	SMARTPLANT	SMARTPLANT	SMARTPLANT
Electrical	3D	SmartSketch	Materials	Instrumentation
SmartPlant	SMARTPLANT	SMARTPLANT	SMARTPLANT	SMARTPLANT
EEAB	Spoolgen	Review	P&ID	Foundation

Thank you for joining us in Las Vegas, and for being a TUF member!

IF YOU HAVEN'T YET, PLEASE JOIN US ON LINKEDIN
AT WWW.INTERGRAPH.COM/GO/TUF



A pessimist sees the difficulty in every opportunity;
an optimist sees the opportunity in every difficulty.

Winston Churchill



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Thank You!

The Intergraph logo, consisting of a white swoosh above the word "INTERGRAPH" in a bold, sans-serif font, followed by a registered trademark symbol (®).