



# Welcome to today's webinar on "Conducting an Internal Company Ergo Cup<sup>®</sup> Competition"

**Richard D Pagnotta, MSPH, CIH**

Manager Ergonomics & EHS Training, PPG Industries

**Lisa M Brooks, MS, CIE**

Global Manager, Ergonomics and Safety Programs, GE

**Jose' Carlos N Banaag, MS, CPE**

Staff Engineer and Ergonomist, Honda of America

# PPG Internal Ergo Cup Competition

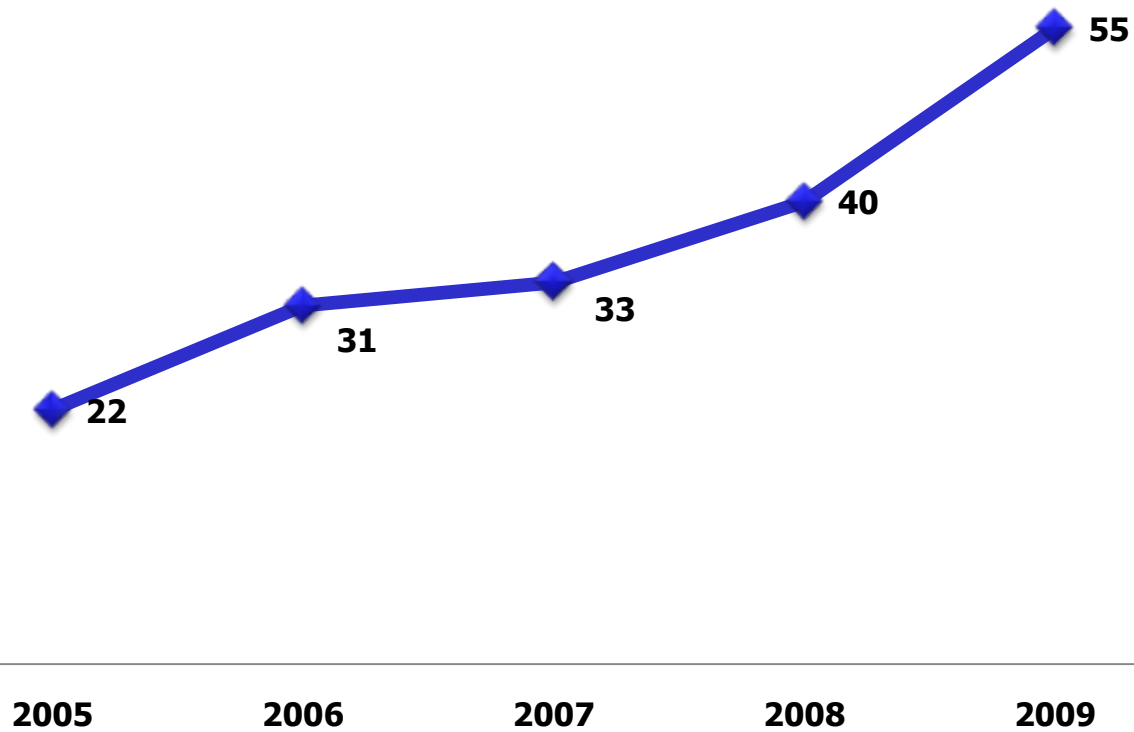
Richard D. Pagnotta, MSPH, CIH  
Manager, Ergonomics and EHS  
Training  
PPG Industries



- A global manufacturer of paints, coatings, chemicals, optical products, specialty materials, glass and fiber glass
- Founded in 1883; Headquartered in Pittsburgh, Pa.
- Rank 161 Fortune 500
- 40,000+ employees
- >60 countries
- 140 manufacturing sites

- Internal competition started in 2005
- Global: North America, EMEA, South/Central America, Asia Pacific
- Same 3 categories as IIE
- Award First, Second and Third Place and:
  - Best in Study and Experimentation
  - Best Cost Savings
  - Best Risk Reduction
  - Best Innovation
- Budget: \$10,000 travel subsidy for **first place winner** to represent PPG at conference

## Ergo Cup Projects



**May** – Conduct internal webinars on application process

**July** – Competition announced

**August** – Reminder

**September** – Recruit judges/ Final reminders

**October** – **Applicant submission deadline; applications to judges for scoring**

**November** – Tally scores and announce winners

- 10 judges
  - EHS – corporate staff and plant staff
  - Engineering and production managers
  - Plant managers
  - 1 Consultant
- Projects uploaded to Microsoft sharepoint site for judges to review
- Email with instructions and scoresheet
- Use 1 through 5 scale
- Give judges gift (select from PPG apparel and merchandise catalog)

**Criteria: “The solution is a newly created device or process”**

- 1= project involves installation of an “off the shelf” device
- 2= project involves modification of an “off the shelf” device
- 3= project was designed and built by facility and is somewhat innovative (e.g. customized lift assist)
- 4= project is an innovative device or process designed by facility
- 5= project or process is a very innovative device or process that significantly changes the way something was done in the past

**Criteria: “The solution provides an attractive return-on-investment and explains it’s financial success”**

- 1 = project does not give any information on injury or production savings
- 2 = project gives minimal savings in one area (injury or production)
- 3 = project gives savings in both areas or considerable savings in one area but either does not explain how it arrived at the cost savings or assumptions are unrealistic
- 4 = project gives considerable savings in one area (injury or production), has good explanation, documentation and assumptions appear realistic
- 5 = project gives considerable savings in both injury and production areas , has good explanation, documentation and assumptions appear realistic

**Criteria: “The solution significantly reduces or eliminates ergonomic risk”**

- 1 = project does not significantly reduce or eliminate risk or not enough information given to evaluate
- 2 = project reduces risk somewhat but no supporting information given (risk assessment etc.)
- 3 = project reduces risk based upon risk assessment but there is no indication or history of documented injuries for the task in question
- 4 = project reduces risk based upon supporting information (risk assessment etc.) and/or demonstrates actual reduction in injury cases since implementation of project or process
- 5 = project eliminates risk completely based upon supporting information (risk assessment etc.) and/or demonstrates elimination of injury cases since implementation of project or process



- Only official MSWord document application accepted
- Standardize applications for judging process
- Include detailed instructions for filling out application
- Instructed to detail how project satisfies each criteria
- Provide explanations under each criteria; don't just answer YES or NO
- Include all names on the application who worked on the project
- Avoid acronyms and define plant specific terms
- Identify risk assessment tool used to define ergonomic risk
- **Photos for before and after very important**

- We do not allow videos; use digital photos only
- May submit more than 1 project
- Re-entries allowed if project did not win previous year
- Projects that affect more employees are preferable to those who affect a few employees (tie-breaker)
- Encourage use of Washington State Cost Benefit Calculator



**Documents**

- [Ergo Share Documents](#)
- [Other Facility Ergo Solutions](#)
- [ErgoNews Past Issues](#)
- [PPG Ergo Process Information](#)
- [Ergo Cup Projects \(2006\)](#)
- [Office Ergonomics](#)
- [Ergo Cup Projects \(2007\)](#)
- [Employee Ergonomics Awareness Training](#)
- [Ergo Cup Projects \(2008\)](#)
- [Ergo Cup Webinar Handouts](#)

**Pictures**

**Lists**

- [Announcements](#)
- [Links](#)
- [Global Ergo Contacts List](#)
- [Vendors](#)

**Discussions**

- [Manufacturing Ergo Solution Discussion Board](#)
- [Office Ergonomics Solution Discussion Board](#)

**Surveys**



**Tullamarine Ergo Cup Project**



**Announcements**

**Auburn Engineers E-tools Software Changes**

by Pagnotta, Rich

There are new features in e-tools ergo software including the ability to work in metric units. The operating p upgraded so you should find the software faster. Please refer to the Updates/What's New link on the softwa

**PPG Ergo Buddy Shoe Insole Discount Program**

by Pagnotta, Rich

PPG now has a corporate discount with Johnson Technologies, the maker of the "Ergobuddy" anti-fatigue sho QuickLink below to access their website. Go to your product of choice (we recommend Ergo Comfort Plus or

[Add new announcement](#)

**Quick Links**

- [Johnson Technologies Web Site to Order Ergo Insoles Click Buy Now and Enter PIN ppg08](#)
- [Cost Benefit Calculator](#)
- [Ergo Cup Judging](#)

[Add new link](#)

**PPG Ergo Cup Winning Team from Sylmar California next to Mechanized Autoclave Loading/Unl**



- Encourages innovation
- Professionally rewarding for all involved
- Promotes employee engagement and enthusiasm
- Recognition for employees, facility and business for ergonomic efforts – trophies, plaques, letters, IIE website
- Demonstrates **value** of EHS initiatives internally and externally to professional community and customers
- Supports sharing of successful solutions between facilities





## Sylmar team's idea takes a load off operators



Workers manually move 8,000-pound racks into place. The new system (below) eliminates the need for employees to push the heavy racks.

Visitors to PPG's aerospace products facility in Sylmar, Calif., may have scratched their heads in bewilderment had they witnessed several large men taking turns pressing a bathroom scale against a wall.

They pushed as hard as they could to measure the force they were exerting. But they weren't in a strength competition. Instead, they were helping a team of PPG engineers design a new system to prevent injuries, save time and lower costs.



The scale-pressers were among the Sylmar employees who routinely had to push racks of windshield parts, weighing up to 8,000 pounds, into an autoclave for laminating. And then they'd pull them back out. By having the employees press against a scale, an ergonomics team at Sylmar determined the amount of force — about 400 pounds, as it turned out — that the loaders exerted collectively to perform those tasks.

The team used the information to design a pneumatically powered autoclave loading-unloading

system, the first of which went into service last year and earned the Sylmar team first place in PPG's companywide "Ergo Cup" competition.

"Autoclave loading has been an ergonomically challenging operation for us for a long time and was identified as a high-risk for ergonomic injury based on risk assessments," said Sam Gupta, lead industrial engineer at Sylmar and leader of the site's ergonomic team.

"A lot of times the operator would have to go looking for people to help with the loading and unloading, and although we have been lucky that so far we've had only one minor injury, the old system was always an incident waiting to happen."

In addition to the risk of hand, shoulder and back injuries from the strain of pushing the heavy racks, employees were exposed to possible burns when unloading the autoclave. The parts for armored military vehicles are heated to fuse multiple layers that make up the protective laminate.

The ergonomic team considered several solutions for a power-assisted system before choosing one that was effective and low cost in addition to being relatively simple. The system uses a large nylon friction wheel riding on an I-beam and driven by a small compressed air motor.

The team designed the system and built most of the first unit in-house at a cost of about \$25,000. Two more units are under construction by a vendor, and each will serve two autoclaves that will be used primarily for aircraft parts.

"The operators love it and they can't wait until the new units get here," Gupta said.

Sylmar's management team also loves the system. "It's consistent with our goal of continually improving safety and efficiency, improving morale, and reducing workers' compensation claims and related costs," Gupta said. "Cost savings from this project — both in terms of labor and injury-cost avoidance — will pay back for the investment in a little over six months."

Gupta is exploring a commercialization deal with a manufacturer that could soon make this PPG-developed system available to other companies. In the meantime, the Sylmar team will head to Reno, Nev., to represent PPG in the International Ergo Cup competition.

"Ergonomics is the science of improving employee well-being and performance, and the Sylmar project is an excellent example of both," said Allen Pride, senior safety and health specialist, and coordinator of the company's Ergo Cup competition.

"The competition gives exposure to projects such as the one at Sylmar and encourages innovative ideas that make our workers safer, healthier and more productive."

## PPG's Ergo Cup runneth over



Top: Frank Brooks, finisher, demonstrates the counter sink assist at Huntsville.

Above: Bob Healey, maintenance manager, demonstrates use of the desanting elevator at Tullamarine.

In its fourth year in 2008, the PPG Ergo Cup competition drew a record 40 entries, representing all of PPG's global regions for the first time.

"The competition continues to grow each year and so does the quality of the projects," said Rich Pagnotta, manager of ergonomics and environment, health and safety training. "It's estimated that this year's Ergo Cup projects will save PPG more than \$1.6 million annually in injury and production costs."

In addition to the first-place team from Sylmar, Calif., other winning teams were:

- **Stowmarket, England**, automotive refinishing coatings plant earned second place for its project, "Capping of Plastic Containers After Filling." The team designed a system comprising a pneumatic air wrench, bottle clamping device, and ergonomic work table to cap a variety of plastic product bottles (each requiring individual torque settings). The solution eliminates the manual force, repetitive motion and awkward posture required to manually cap product containers.
- **Lexington, N.C.**, fiber glass plant won third place for its "Direct Draw Package Extracting Tool." The simple tool eliminates awkward posture associated with unloading fiber glass packages from winding machines. It also eliminates an acute safety risk and avoids the cost of automating the unloading operation.
- **Busan, Korea**, coatings plant received an honorable mention for its "4-Liter Can Lid Device." An automated machine — rather than a person — applies and secures lids to paint containers. This reduces cycle time and eliminates the risks inherent in repetitive motions.
- **Tullamarine, Australia**, coatings plant won an honorable mention for its "Modification to Decanting Elevator for Blending Vessels." It used to take two employees to lift 320-pound, 55-gallon drums for emptying and cleaning. The Tullamarine team developed a small "elevator" (electrically activated air bags) that lifts a platform holding the large drums so they can be easily tilted and cleaned.
- **Huntsville, Ala.**, aerospace facility netted an honorable mention for its "Counter Sink Assist." When mounting windshields to aircraft, hundreds of holes must be countersunk to ensure the hardware is flush. The Huntsville team designed a pneumatic tool to eliminate the need for employees to apply repeated pressure during the countersinking process.



**BUILT TOUGH** all-new **2010 Ford Transit Connect** 22/25 mpg  
specific for everyone. Make a professional first impression [Click to Watch Video](#)

## Entrepreneur Connect

[Sign In](#) | [Create Profile](#)



[Starting a Business](#)

[Money](#)

[Marketing](#)

[Sales](#)

[Home](#) > [Business Journals](#) > [Industrial Engineer](#)

## Honda makes presence known in Ergo Cup: successful 2008 Conference draws more attendees, broadens topic coverage.

### Today on Entrepreneur



- ▶ [5 Employee Motivation Myths Debunked](#)
- ▶ [8 Thriving Travel Markets](#)
- ▶ [Know Your Target Market](#)
- ▶ [5 Audit Attractors to Watch Out For](#)
- ▶ [The Quality-Control Myth](#)

[More Stories »](#)

PPG Aerospace Transparencies in Huntsville, Ala., won in the category of team-driven workplace solution. The team's ergonomic solution, "Clamp Assist System," involved PPG technicians using spring clamps to assemble aircraft win-dows. Although not hazardous, it requires many employees to apply hundreds of clamps per day resulting in increased injury risks. The team developed a system to relieve ergonomic dangers without slowing the current process or creating new safety issues.



- Communication important; publicize via EHS directors, plant managers, manufacturing directors
- Help needed on calculating ROI for production and injuries
- Cost benefits to production actually exceed injury prevention benefits in most cases
- Regional awards were not effective for us
- Make clear rules of competition and expectations of winner
- A lot of work but a lot of benefits