



2005 IFA TECHNICAL COMMITTEE MEETING

11-13 April 2005, Alexandria, Egypt

Technical Research Paper no. 5

From Safety Excellence to Business Excellence

presented by

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About the IFA Technical Committee

The IFA Technical Committee encourages the development and adoption of technology improvements that can lead to greater production efficiencies and reduced emissions, as well as better health and safety standards throughout the fertilizer industry. Our mission is to actively promote the sustainable development of efficient and responsible production, storage and transportation of all plant nutrients. The Technical Committee accomplishes these objectives through a variety of channels, including:

- Technical and policy-oriented information materials. The committee regularly conducts surveys and produces reports on key industry metrics, including the IFA Energy Efficiency and CO₂ Emissions Report, the IFA Safety Report, and the IFA Emissions Report. This work enables member companies to assess their operations over time, make comparisons with similar facilities on an established level of performance, determine the need for technology improvements and identify good industrial and management practices.
- Regular exchange of information on technology developments and industrial practices. A key role of the IFA Technical Committee is to encourage ongoing technical innovation in the fertilizer industry through the development, compilation and exchange of technical information between members, researchers, engineers, equipment suppliers and other industry associations. To this end, the committee organizes a Technical Symposium every other year to examine progress in the production technology of fertilizers. Each Symposium traditionally features the presentation of 30-40 new technical papers from member companies worldwide, providing members with information on the latest technological developments. In the intervening years, the committee holds a variety of meetings to assess current industrial practices and standards, with an eye toward identifying key developments of interest to members.
- Technical and educational workshops and special events. The IFA Technical Committee provides workshops designed for engineers working in the fertilizer industry, particularly those who have recently assumed new responsibilities, and for new engineers to increase their technical knowledge. These workshops (e.g. concentrating on nitrogen and/or phosphate fertilizer production) are designed to improve the participants' skills and broaden their vision and understanding of the entire industry, including technology, economics, energy use, safety and environmental stewardship. Workshops also provide engineers with an opportunity to exchange ideas, solve specific problems and improve plant operations and profitability.
- Education and advocacy. The IFA Technical Committee recognizes that customers, markets and regulatory environments are best served by clear and concise information on the fertilizer industry and its practices and products. Because the knowledge and expertise found within the fertilizer industry is the best source for this information, the Technical Committee endeavours to educate policymakers, standardization bodies, customers and the public on industry achievements, technological advances, voluntary initiatives and best practices. The committee also encourages universities and development centres to conduct research on fertilizer product development and production processes.

From Safety Excellence to Business Excellence

Abstract (1/2)

Safety is about more than reducing on-the-job incidents and injuries and goes beyond cost and compliance. These are just the beginning. Establishing a fully integrated culture of safety – from the office of the CEO to widespread plant sites – leads to responsible business stewardship that motivates employees, improves performance and productivity, cuts costs and has a positive impact on results.

Instilling a safety culture throughout an organisation engenders respectful, ethical behaviour that extends from the awareness of possible hazards on the factory floor to reporting corporate earnings. Safety is a proven route to changing people's behaviour, developing leadership qualities and strengthening the corporate immune system, which impact on all facets of a business. Safety serves as a catalyst for achieving excellence in business performance. No company can excel until it makes safety a way of life and a way of doing business. Safety is a strategic business value. There is a solid cause-and-effect relationship between a company's dedication to safety and its drive for operational excellence. In short, if you can't manage safety, you can't manage your business.

Creating a safe working environment is about more than removing hazards and instituting safety procedures. It's about people: their attitudes, how they behave and how they think. They are the critical factor in making a workplace safe. Safety management is a means and methodology of changing behaviour that results in a mindset of safety. This change can occur only when everyone "owns" the culture of safety. The progression from a "reactive" approach to safety, based on enforced compliance, to an independent ability to take care of oneself to an interdependent "team" approach illustrates the behavioural change that takes place as a culture of safety takes hold. Through creating self-sustaining interdependence, DuPont helps people work differently by raising the level of responsibility employees feel towards each other, from the CEO to all levels of the organization.

Abstract (2/2)

A key to success in safety management is making safety a line responsibility, driven by a strong and visible sense of commitment on the part of senior management. This means going after the root causes – instituting practices that will prevent incidents from happening – rather than concentrating on the consequences. It also means actively engaging all levels of an organisation in making substantive changes. This fully integrated approach – treating an organisation like an organism – leads to “felt leadership”. “Felt leadership” refers to management commitment that is so well communicated that it is experienced at all levels. It imposes the critical element of accountability and leads to operational discipline and social responsibility.

The most critical component of a company’s corporate image is the behaviour of the people who work there. Corporate image is an extension of a corporate value system, of which the most universal and powerful element is safety. In today’s interconnected world, a single minor incident – or misbehaviour by just one employee – can threaten a whole corporation as it is broadcast, and possibly distorted, with lightning speed. Our culture of instant communication has a multiplier effect that can penetrate the far reaches of a company, as well as the community in which it operates, perhaps causing irreparable damage. While there is no such thing as a totally risk-free workplace, it is possible to strengthen the corporate immune system by developing an awareness and discipline that makes it possible to foresee, and thereby prevent, incidents from occurring. By understanding the profile of risks and sensitising by everyone in an organisation, it is possible to keep risks from becoming incidents.

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All papers and presentations prepared for the IFA Technical Committee Meeting in Alexandria will be compiled on a cd-rom to be released in May 2005.

Safety & Performance

IMPROVING YOUR BUSINESS WITH SAFETY MANAGEMENT

Business Excellence through Behaviour Change

The Road to Zero

A.P.KOTLAREVSKY
Apr.12th, 2005
Alexandria

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The Road to Zero

AGENDA

- Strategic Value of Safety
- Behaviour Based Safety Program
- DuPont Approach

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History of DuPont



- Powder mill operation began in 1802
- First safety rules established in 1811

Safety is a line management responsibility

No employee may enter a new or rebuilt mill until a member of top management has personally operated it

-E. I. du Pont

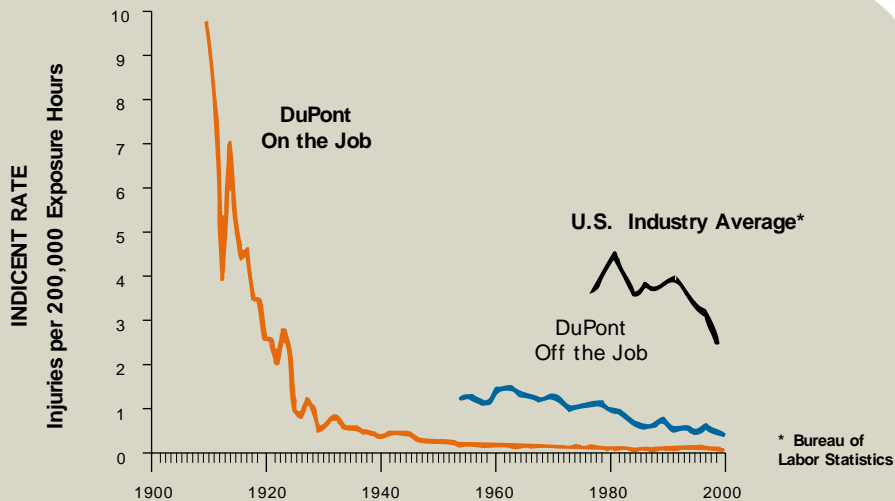
- Safety statistics began in 1912
- Belief that all injuries are preventable developed in the 1940s
- Off-the-job safety program began in the 1950s

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DuPont Safety Performance (Lost Workday Case (LWC) per 200,000 hours)



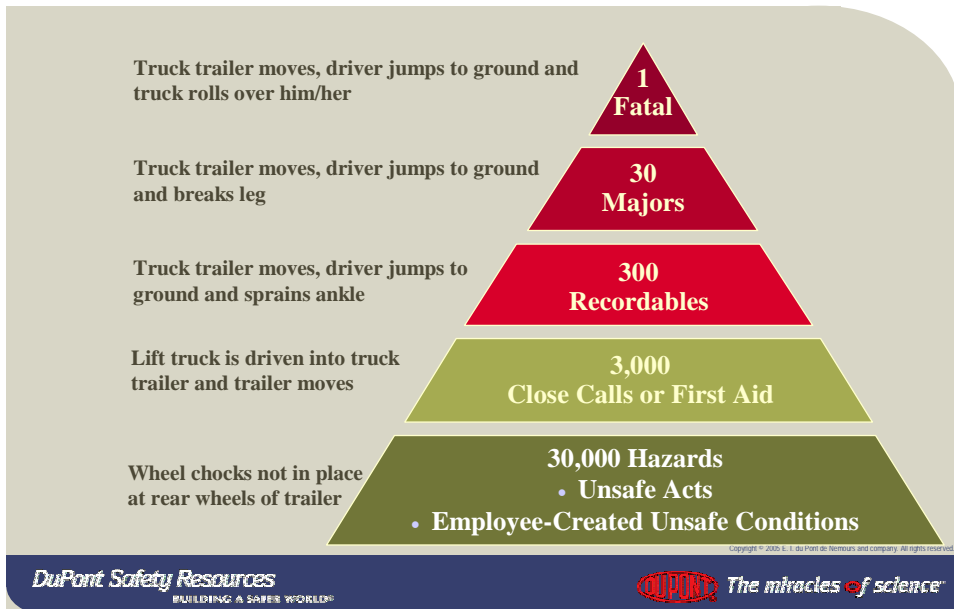
* Bureau of Labor Statistics

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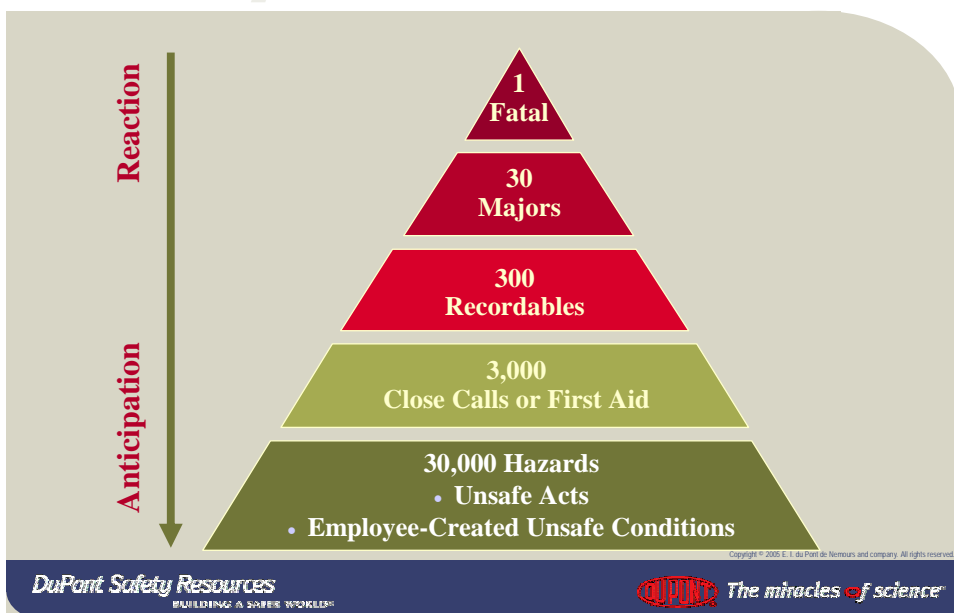
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The Incident Pyramid or "how to play with probabilities"

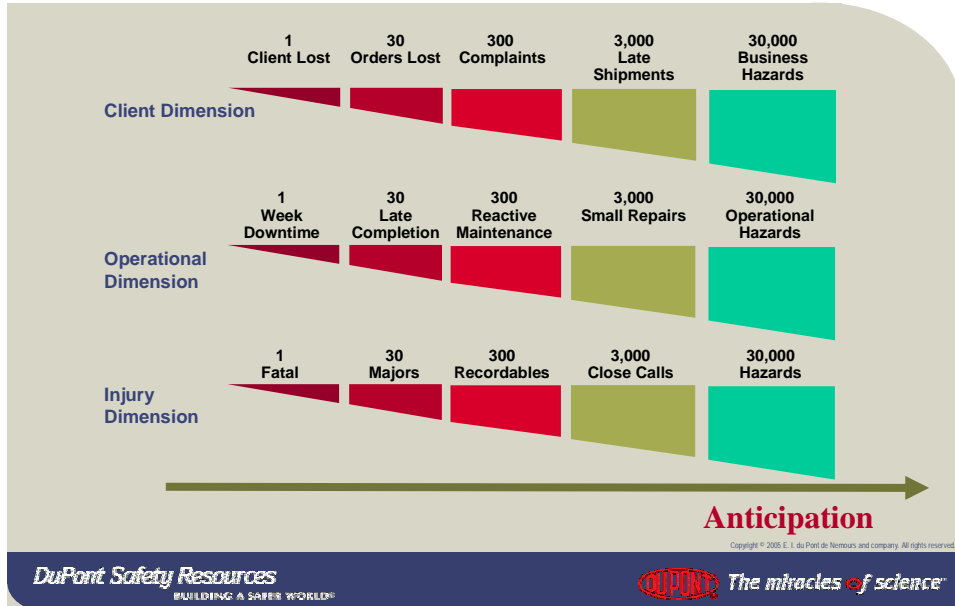


Anticipation vs. Reaction



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Anticipation through all dimensions



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Developing the Will and the Capability

Integration

Integrate in Agenda

Know What to Do

Act With Efficiency

Sustain Performance

aptitudes

**WILL,
ENERGY**

CAPABILITY

Anticipation

Aware of Impacts

Look for Issues

Feel Accountable

Pro-active With Others

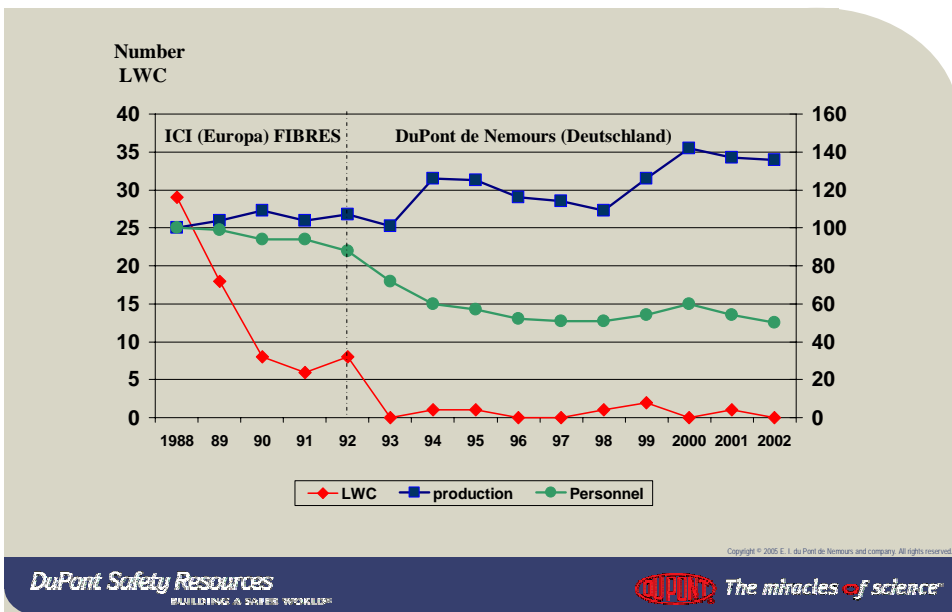
“attitudes”

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Plant of Östringen 1988-2002 Lost Workday Cases in comparison to yields and personnel (1988 = 100%)



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The Road to Zero

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Strategic Value of Safety

Behaviour Based Safety Program

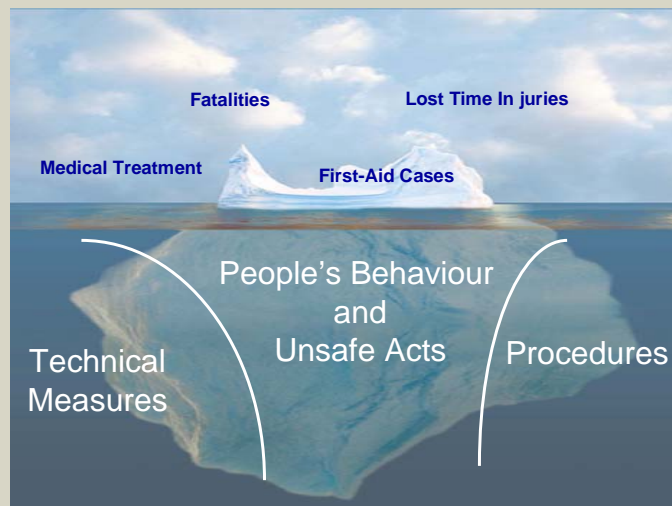
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Workplace Injuries – The Iceberg Analogy



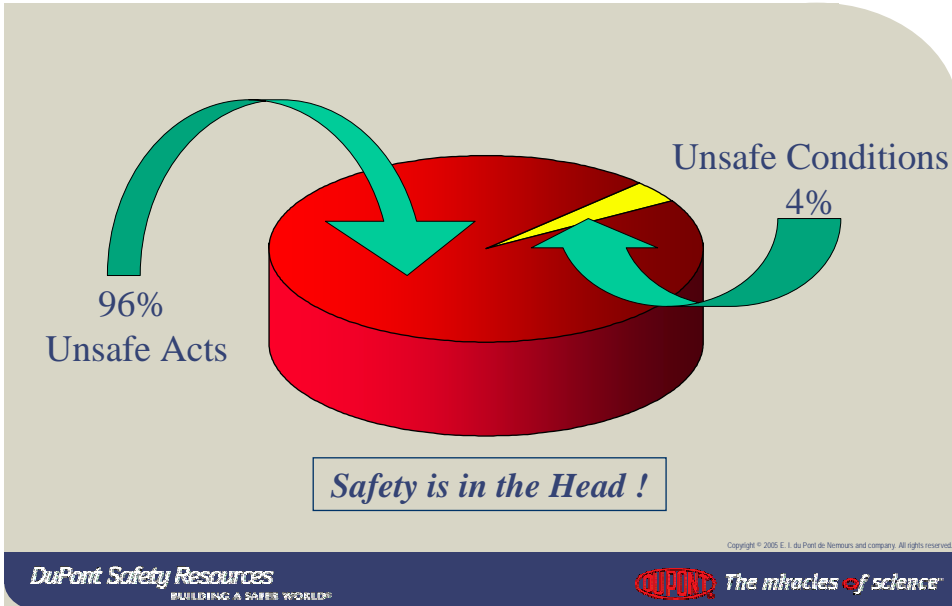
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The Causes of Injuries




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Human Behavior is both

Observable



Measurable



therefore

Behavior can be managed !

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Essential Criteria of Behavioral Based Safety

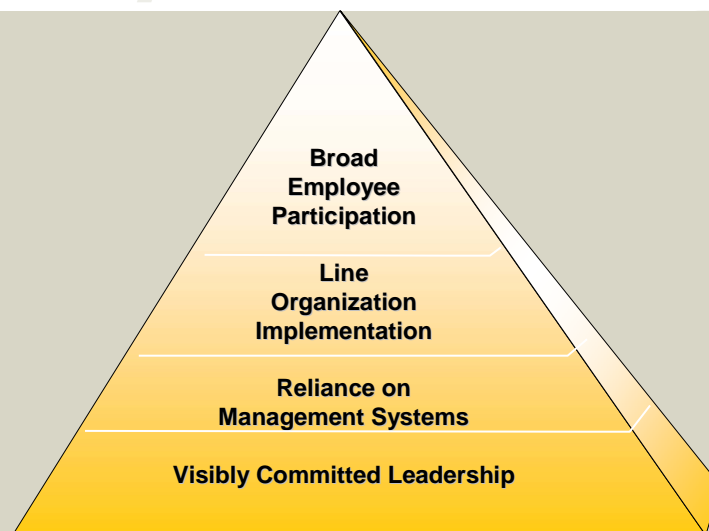
- It involves significant workforce participation
- It targets specific unsafe behaviors
- It requires visible on-going support from managers and front-line supervision

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Strategy for Safety Excellence



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Safety Excellence & Performance

Safety Excellence includes...

People

Leadership

Systems

Equipment

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Safety Excellence & Performance

When an injury happens, we have “successfully” bypassed a number of prevention mechanisms



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Most of Costs are also hidden



The image shows an iceberg floating in the ocean. The top part of the iceberg, which is visible above the water, is labeled "Direct Costs". The much larger part of the iceberg, which is submerged below the water, is labeled "Up to 5X as large".

DIRECT COSTS

- Medical costs
- Wage indemnity
- Claims administration fees

INDIRECT COSTS

- Insurance premium increase
- Damaged equipment & goods
- Lost production and quality
- Process Interruptions/Yield Losses
- Replacement Labor / Overtime
- Litigation
- Damage to Customer Relations & Public Image

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How do the best companies achieve excellence in Safety, Health & Environment ?

- Leadership at the top
- Clear management visibility & leadership
- Clear set of values around safety
- A Health & Safety management system
- Involvement of all employees in safety & health
- Monitoring performance – Leading Indicators
- Accountability at all levels of an organization
- Open sharing of knowledge & information

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The Road to Zero

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Strategic Value of Safety

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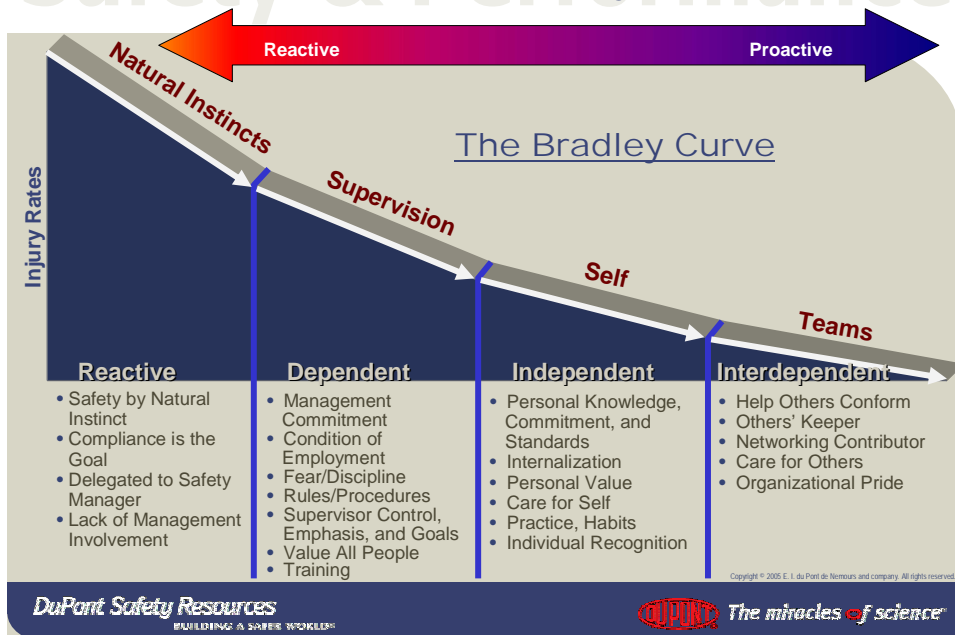
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Transformations in Safety Culture



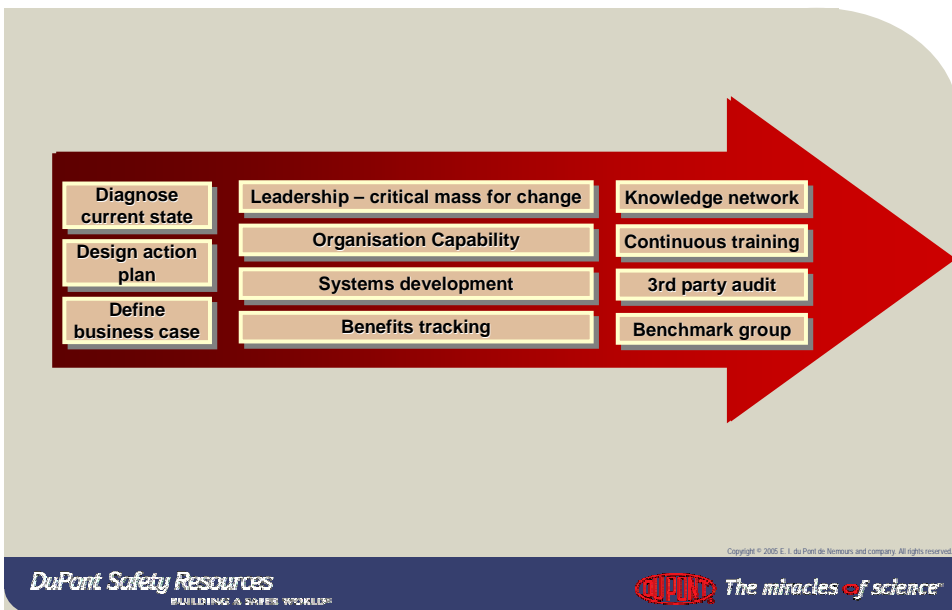
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World-class safety requires these elements



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Components of our Safety Journey



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Safety Paradigm Shifts

<i>FROM NOW TODAY</i>					<i>TO FUTURE TOMORROW</i>				
<i>Cost</i>					<i>Competitive Advantage</i>				
1	2	3	4	5	6	7	8	9	10
Injuries are unavoidable.					All injuries can be prevented.				
Major injuries are investigated.					All incidents are investigated.				
Accountability is delegated to professionals.					Accountability is vested in the line organization.				
Most injuries result from design, equipment, and/or procedure failures.					The vast majority of injuries result from actions of people; the focus is on mindset and awareness.				
Safety off the job is a personal matter.					Off-the-job safety = on-the-job safety.				
Contractors can follow their own standards.					Contractor safety = corporate employee safety.				

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In Summary, The DuPont Approach Helps You To

- Develop leadership and communication skills
- Raise overall safety awareness
- Monitor safe & unsafe actions / conditions
- Reduce injuries, reinforce safe work practices, and eliminate at-risk behavior
- Initiate / Sustain Culture Change
- Improve Business Performance
- Develop a culture of performance through
 - Anticipation & Integration